

COMPACT DISC PLAYER

DP-M6010

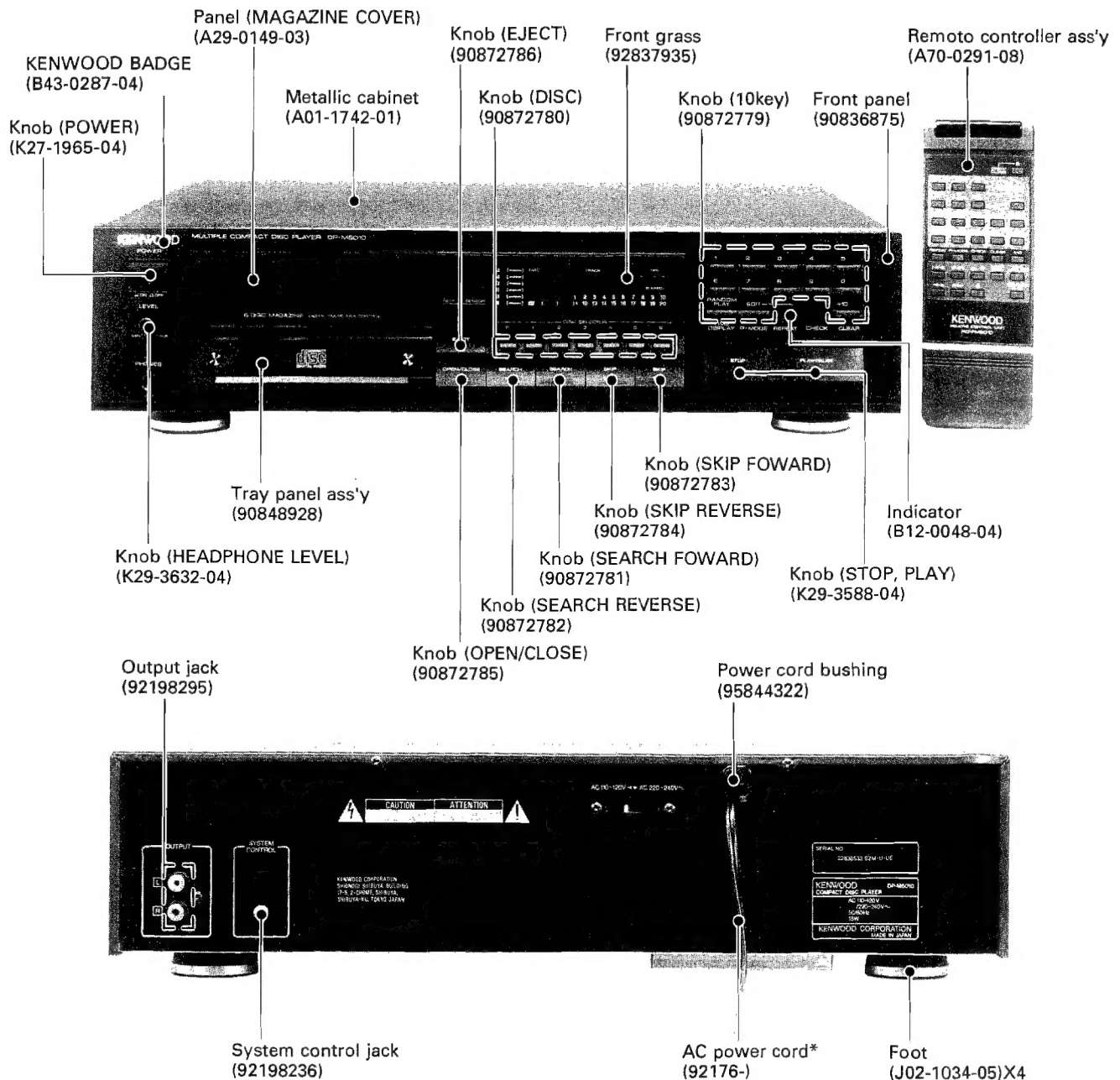
SERVICE MANUAL



V10261

KENWOOD

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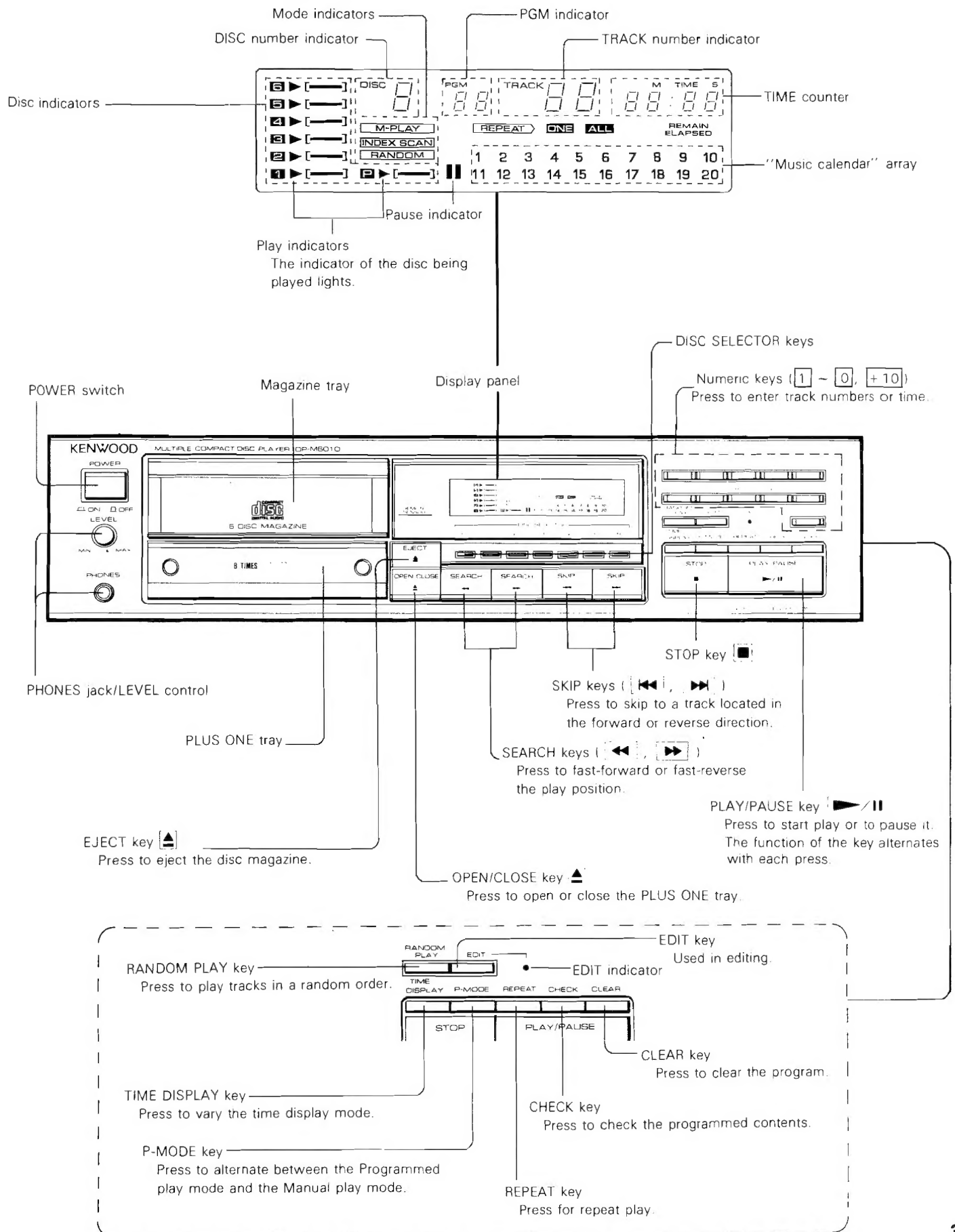
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*Refer to parts list on page 39.

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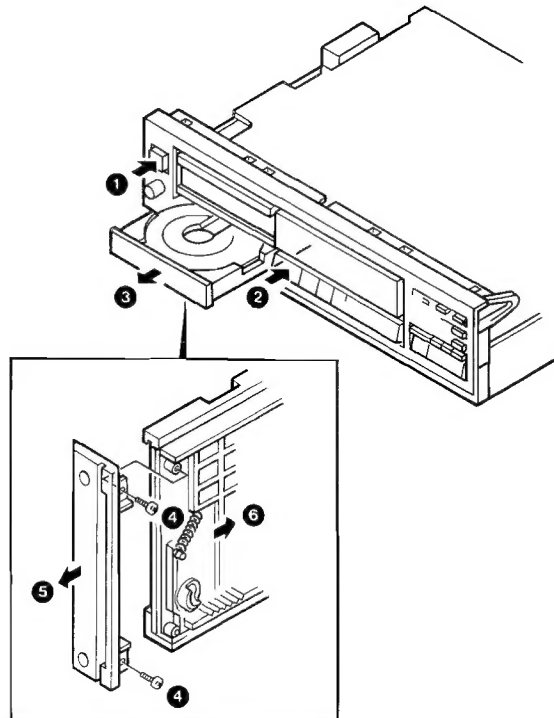
CONTROLS AND INDICATORS



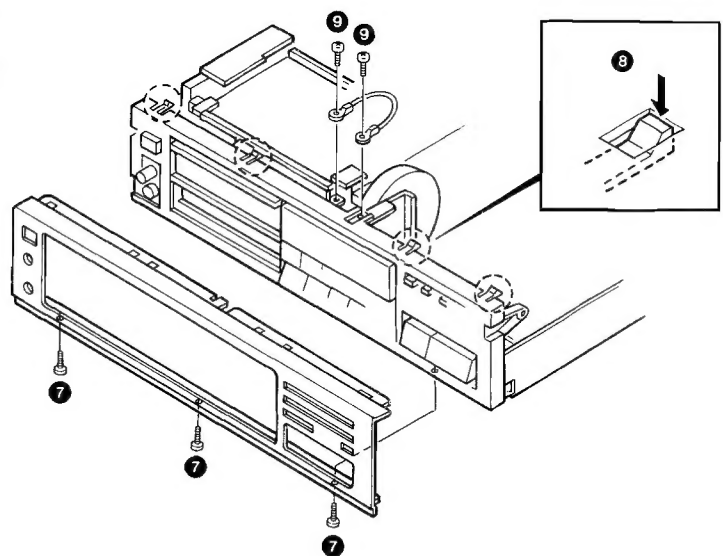
DISASSEMBLY FOR REPAIR

Remove the cover to the following operations.

1. Turn the power ON (①), and press the OPEN/CLOSE switch (②) to open the tray (③).
After this turn the power off again.
2. Remove the two screws (④) holding the tray panel to the back side of the tray, and take out the tray panel (⑤).
Close the tray by gently pushing it with your hand.

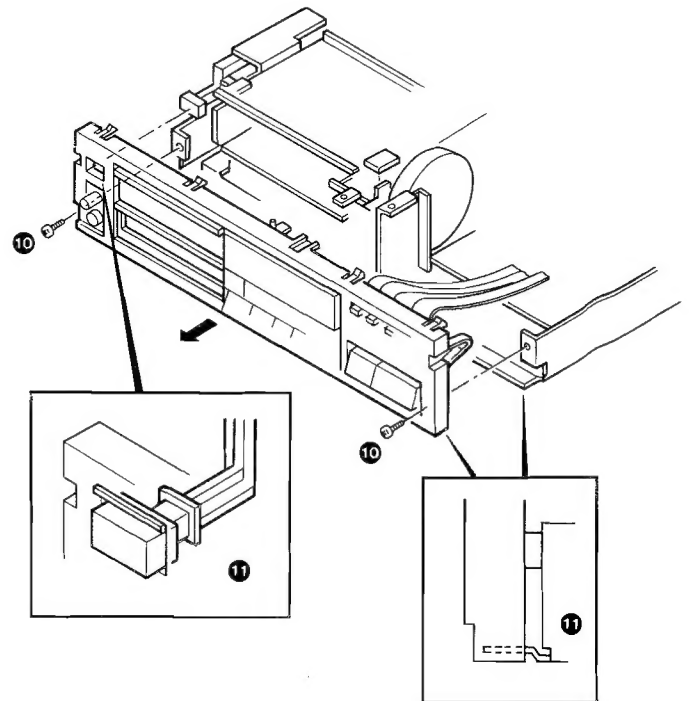


3. Remove the three screws (⑦), disengage the four claws (⑧), and remove the front panel.
4. Remove the two screws (⑨), and remove the ground wire.

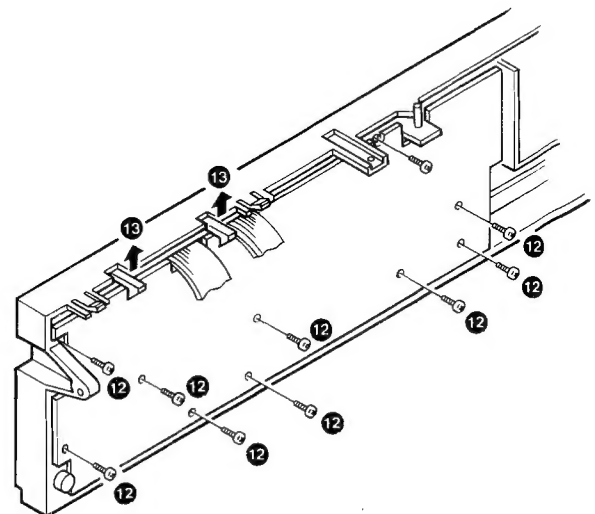


DISASSEMBLY FOR REPAIR

5. Remove the two screws (10), and take out the sub panel from the POWER switch knob and chassis (11).



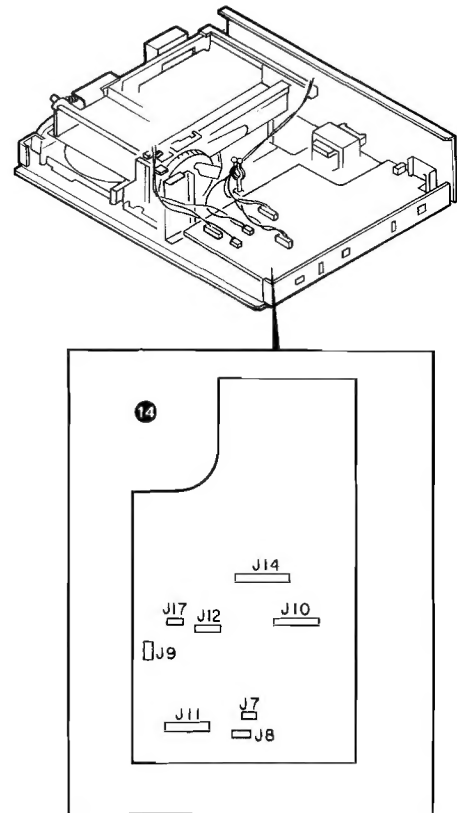
6. Remove the ten screws (12), disengage the two claws (13), and remove the display unit.



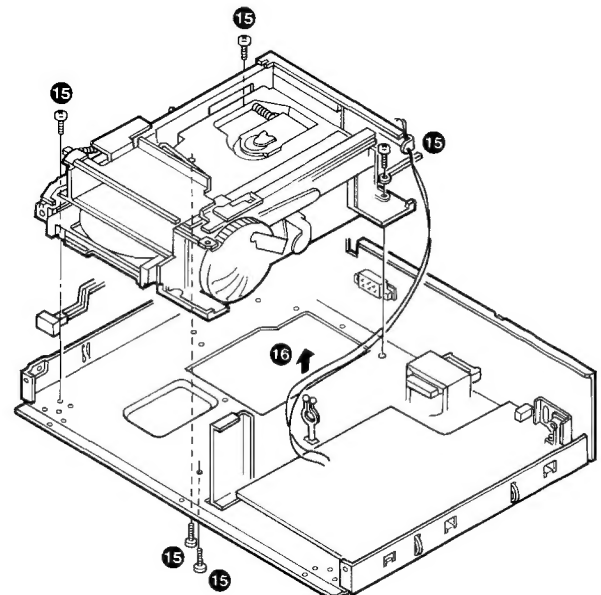
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DISASSEMBLY FOR REPAIR

7. Disconnect the eight connectors (14).

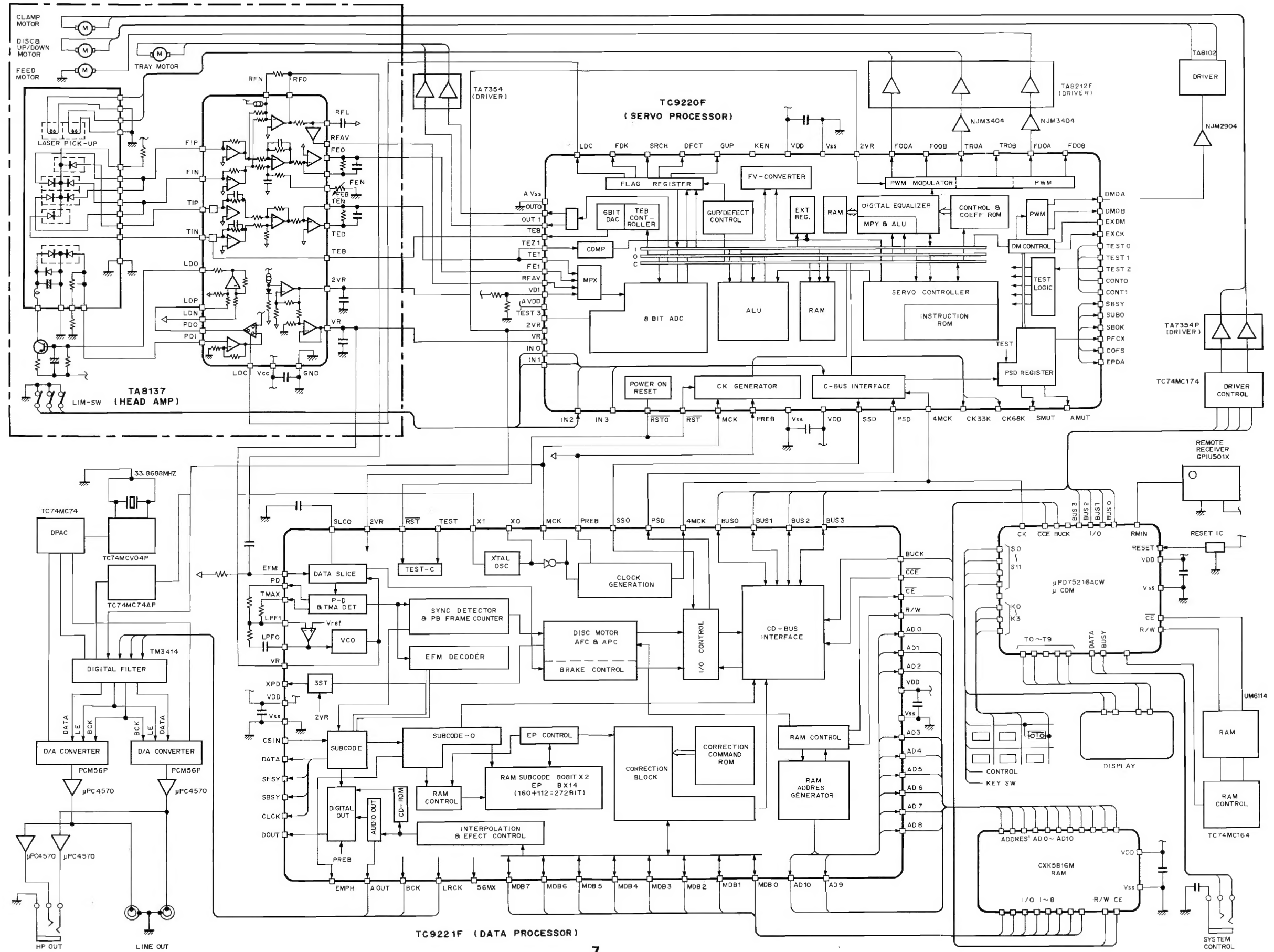


8. Remove the five screws (15), holding the Mechanism Ass'y.
9. Remove the lead from the lead holder and lift the mechanism in the direction of the arrow (16).



DP-M6010 DP-M6010

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

1. Description of Components

1-1. RF PC UNIT

Ref. No.	Part No.	Use/Function	Operation/Condition/Compatibility
Q101	TA8137F	RF amplifier	Generation of focusing error signal and tracking error signal. Generation and phase compensation RF signal.
Q102	2SA950Y	Switch	Laser diode power supply switch.

1-2. MAIN PC UNIT

Ref. No.	Part No.	Use/Function	Operation/Condition/Compatibility
Q201	GP1U501X	Remote sensor	Remote sensor unit.
Q202	μPC4570C	Op amplifier	Headphone amplifier.
Q281	TC4085BP	Invert gait	Receive the tray switch ON and program play, if with flaw, to turn OFF the remote sensor and system control.
Q282	2SC2458(GR)	Switch	Remote sensor muting switch.
Q283			System control muting switch.
Q301	TC9220F	Servo processor LSI	Generates pulses for the focusing servo, tracking servo and feed servo.
Q302	TC9221F	Signal processor LSI	Handles demodulation, correction and interpolation of EFM data, PLL circuit. Processes all digital signals, including the CLV servo signal.
Q303	TA8102P	Driver	Disc and up/down motor driver.
Q304	TA7354P	Driver	P1 tray motor driver.
Q305	TA8212F	Driver	Focus coil, tracking coil and feed motor driver.
Q306	NJM3404AD	Op amplifier	(1) Feed motor drive. (2) Tracking coil drive.
Q307	NJM2904D	Op amplifier	(1) Disc and up/down motor drive. (2) Up/down motor drive.
Q308	μPC4570C	Op amplifier	Eject solenoid driver.
Q309	TA7354P	Driver	Calmp motor driver.
Q310	μPD75216ACW-239	Microprocessor	Handles the display, key input processing and servo IC control.
Q311	LC3514 UM6114	S-RAM	Memorizes the TOC data and PROG RAM data.
Q312	TC74HC164AP	Logic IC	8-bit shift register.
Q313	CXK5816M	S-RAM	Signal processor RAM (16K).
Q314	2SC2878(B)	Switch	Feed search switch.
Q315	2SC2458(GR)	Switch	Tracking gain switch.
Q316	2SC2120(Y)	Driver	Solenoid driver.
Q317	2SC2458(GR)	Driver	Solenoid driver.
Q318	2SC2458(GR)	Switch	Disc motor switch.
Q319	2SC2458(GR)	Switch	Up/down motor switch.
Q320	2SA1048(GR)	Switch	Up/down motor switch.
Q321	2SA1048(GR)	Switch	Solenoid driver.
Q322	2SA1048(GR)	Switch	De-emphasis switch.
Q324	2SA473(Y)	Switch	Solenoid driver.
Q325	M51943BSL-T	Reset IC	Reset IC for the microprocessor.
Q401	TC74HC174AP	D flip-flop	Clamp motor flip-flap.
Q402	2SC1923(O)	Switch	LRCK clock pulse switch.
Q403	TC74HC74AP	D flip-flop	D flip-flop (DATA, LRCK, CLOCK).
Q404	TC74HCU04P	Inverter	Main clock oscillator.
Q405	TC74HC74AP	D flip-flop	D flip-flop (clock).
Q406	2SC2458(GR)	Switch	Focus OK switch.
Q501,502	PCM56P	D/A converter	Converts the digital data into analog signals.
Q503	YM3414	Digital filter	8x over-sampling.
Q504~506	μPC4570C	Op amplifier	Low pass filter and emphasis.
Q507,508	2SK365(BL)	FET switch	De-emphasis switch.
Q509,510	2SC2878(B)	Switch	Muting switch.

CIRCUIT DESCRIPTION

Ref. No.	Part No.	Use/Function	Operation/Condition/Compatibility
Q901	MC7808CT	Voltage regulators	+8V voltage regulators.
Q902,903	MC7805CT	Voltage regulators	+5V voltage regulators.
Q904	MC7905CT	Voltage regulators	-5V voltage regulators.
Q905,906	2SA1048(GR)	Muting	Power ON/OFF muting.
Q907	2SC2458(GR)	Muting	Power ON/OFF muting.
Q908	2SC2878(B)	Muting	Power ON/OFF muting.

2. RF AMP TA8137F (RF PC UNIT : Q101)

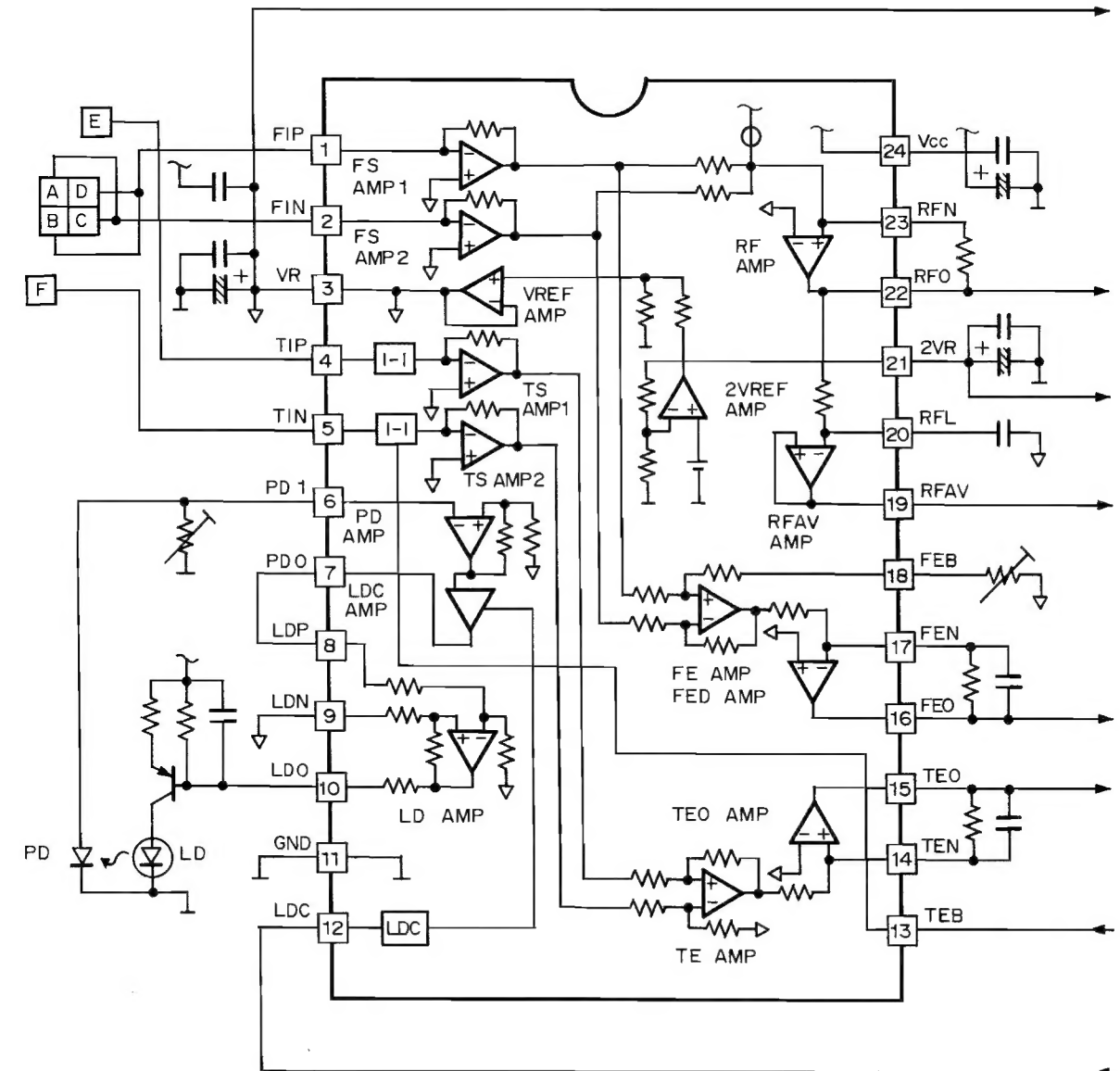
The TA8137 is the IC developed to generate the focus signal and the tracking error signal for the 3-beam pickup in the CD player.

The TA8137F is capable of forming a servo system with a lesser number of externally connected components by a combined use with the TC9220F (digital servo processor).

Features:

- RF AV amplifier built-in for on-track information and defect detection.
- Capable of automatically adjusting the tracking error balance by a combined use with the TC9220F.
- Built-in APC circuit.

2-1. Block diagram



CIRCUIT DESCRIPTION

2-2. Explanation of terminals

Pin No.	Pin Name	I/O	Function	Remarks
1	FIP	I	Main beam I-V amplifiers 1/2 input pins.	Connected to PIN diodes B+D.
2	FIN	I		Connected to PIN diodes A+c.
3	VR	O	Reference voltage output pin (+2V).	
4	TIP	I	Sub-beam I-V amplifiers 1/2 input pins.	Connected to PIN diode F.
5	TIN	I		Connected to PIN diode E.
6	PDI	I	Photodiode amplifier input pin.	Connected to monitor photodiode.
7	PDO	O	Photodiode amplifier output pin.	Connected to laser diode amplifier.
8	LDP	I	Laser diode amplifier normal phase input pin.	
9	LDN	I	Laser diode amplifier reverse phase input pin.	
10	LDO	O	Laser diode amplifier output pin.	Connected to laser diode circuit.
11	GND	—	GND pin.	
12	LCD	I	Laser diode control input pin.	
13	TEB	I	Tracking error balance adjustment input pin.	
14	TEN	I	Tracking error output amplifier reverse phase input pin.	Connected to TEO through feedback CR.
15	TEO	O	Tracking error output amplifier output pin.	
16	FEO	O	Focus error output amplifier output pin.	
17	FEN	I	Focus error output amplifier reverse phase input pin.	Connected to FEO through feedback CR.
18	FEB	I	Focus error balance adjustment input pin.	Connected with adjustment semi-fixed VR.
19	RFAV	O	RF average amplifier output pin.	
20	RFL	I	RF average amplifier normal phase input pin.	Connected with high-cut capacitor.
21	2VR	O	2-fold reference voltage output pin (+4V)	
22	RFO	I	RF amplifier output pin.	
23	RFN	I	RF amplifier reverse phase input pin.	Connected to RFO through feedback resistor.
24	VCC	—	Power supply pin (+5V)	

CIRCUIT DESCRIPTION

3. Servo signal processor TC9220F (MAIN PC UNIT : Q301)

The TC9220F is the CMOS LSI developed for digital servo control over the compact disc player.

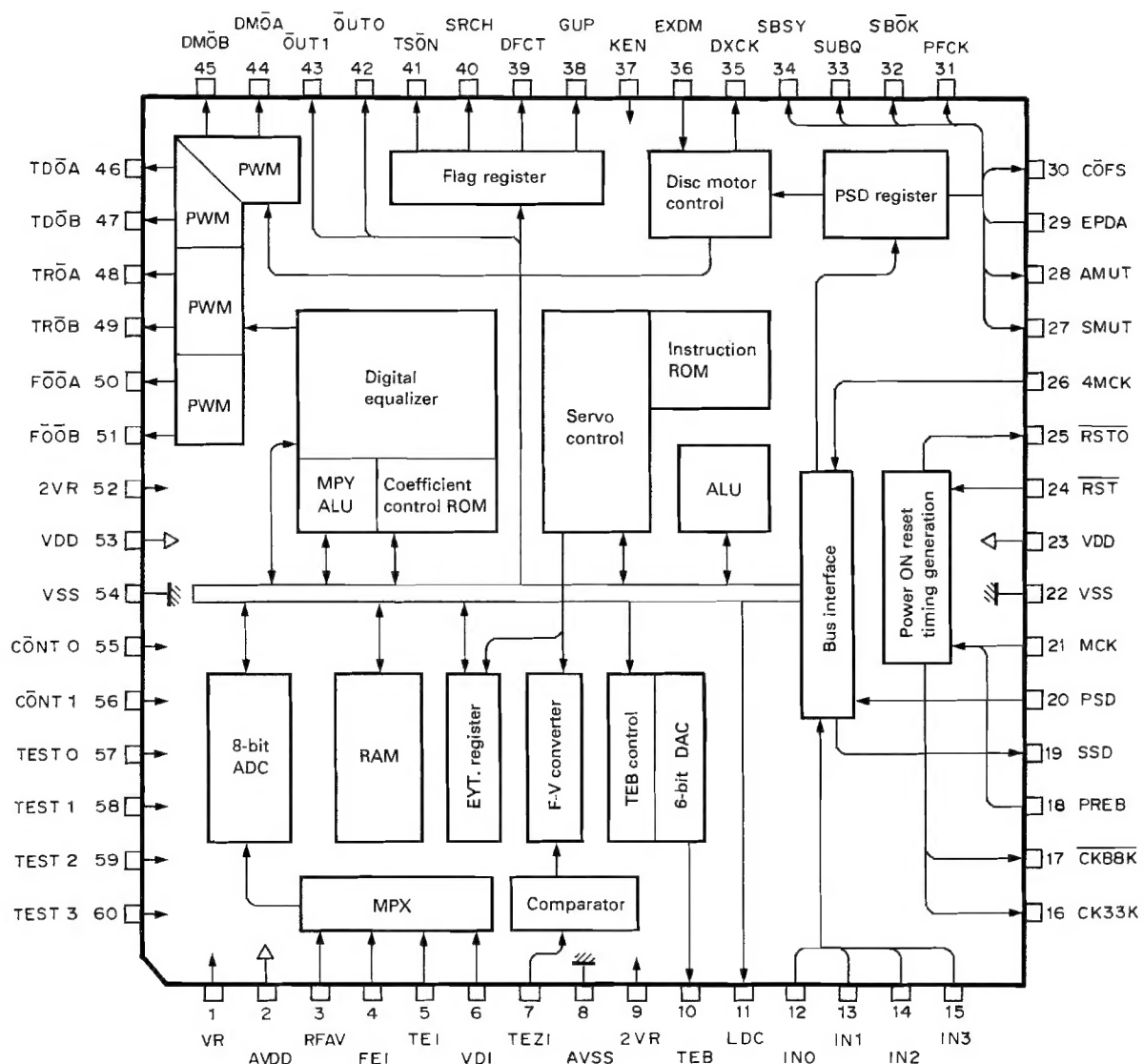
This LSI can realize a CD player system with high function and simple configuration due to a combined use with servo IC TA8137F (bipolar) and data processor TC9221F (CMOS LSI).

Features:

- Greatly reduced number of externally connected components through employment of full digital servo system.
- Ease at software development owing to built-in ROM of abundant servo control instructions.

- Built-in digital equalizer for computation for phase compensation with phase compensational coefficients meeting different pickups.
- PWN driver (4-channel) incorporated.
- Focus/tracking loop gain/offset automatically adjusted.
- Tracking balance automatically adjusted.
- Built-in circuit to detect abnormality during play or search totally.
- High-speed search by search speed control circuit.
- Any mode selectable for search control.
- Auto kick search system best suited to cue/review.
- Low battery voltage detection/compensation circuit incorporated.
- CDV/LV compatible mode incorporated.

3-1. Block diagram



CIRCUIT DESCRIPTION

3-2. Explanation of terminals

Pin No.	Pin Name	I/O	Function
1	VR	–	Reference power supply voltage pin (2V).
2	AVDD	–	Analog power supply voltage pin.
3	RFAV	I	RF average signal input pin.
4	FEI	I	Focus error signal input pin.
5	TEI	I	Tracking error signal input pin.
6	VDI	I	Low battery voltage detection pin.
7	TEZI	I	Tracking error zero-cross input pin.
8	AVSS	–	Analog ground pin.
9	2VR	–	Reference power supply voltage pin (4V).
10	TEB	O	Tracking error balance output pin.
11	LDC	O	Laser diode control signal output pin.
12~15	IN0~IN3	I	General input pin.
16	CK33K	O	33kHz clock output pin.
17	CK88K	O	88kHz clock output pin.
18	PREB	I	Preable signal input pin.
19	SSD	O	Servo serial data input pin.
20	PSD	I	Processor serial data input pin.
21	MCK	I	Master clock input pin (16.9344MHz).
22	VSS	–	Ground pin.
23	VDD	–	Power supply voltage pin.
24	RST	I	Reset input pin.
25	RSTO	O	Reset output pin.
26	4MCK	O	4MHz clock input pin.
27	SMUT	O	Software mute output pin.
28	AMUT	O	Analog mute output pin.
29	EPDA	O	Processor internal status output pin.
30	COFS	O	Correction system frame sync signal output pin.
31	PFCK	O	Playback system frame sync signal output pin.
32	SBOK	O	Sub-code signal Q data CRC check, judgment result output pin.
33	SUBQ	O	Sub-code Q data output pin.
34	SBSY	O	Sub-code sync signal output pin.
35	DXCK	O	2MHz clock output pin.
36	EXDM	I	Disc motor PWM data external set pin.
37	KEN	I	Kick enable input pin.
38	GUP	O	Gain up signal output pin.
39	DFCT	O	Defect detection output pin.
40	SRCH	O	Search signal output pin.
41	FOK	O	Focus OK signal output pin.
42	OUT0	O	Disc motor control PWM output pin.
43	OUT1	O	
44	DMOA	O	
45	DMOB	O	Feed motor control PWM output pin.
46	FDOA	O	
47	FDOB	O	Tracking coil control PWM output pin.
48	TROA	O	
49	TROB	O	Focus coil control PWM output pin.
50	FOOA	O	
51	FOOB	O	Reference power supply voltage pin (4V).
52	2VR	–	
53	VDD	–	
54	VSS	–	Ground pin.
55	CONT0	I	Control (test) input pin. Normally "H" or open for use.
56	CONT1	I	
57	TEST0	I	Test pin. Normally "H" or open for use.
60	TEST3	I	

CIRCUIT DESCRIPTION

4. Digital signal processor TC9221F (MAIN PC UNIT : Q302)

The TC9221F is the CMOS LSI developed for sync separation, EFM signal demodulation and error detection/correction in a compact disc player system.

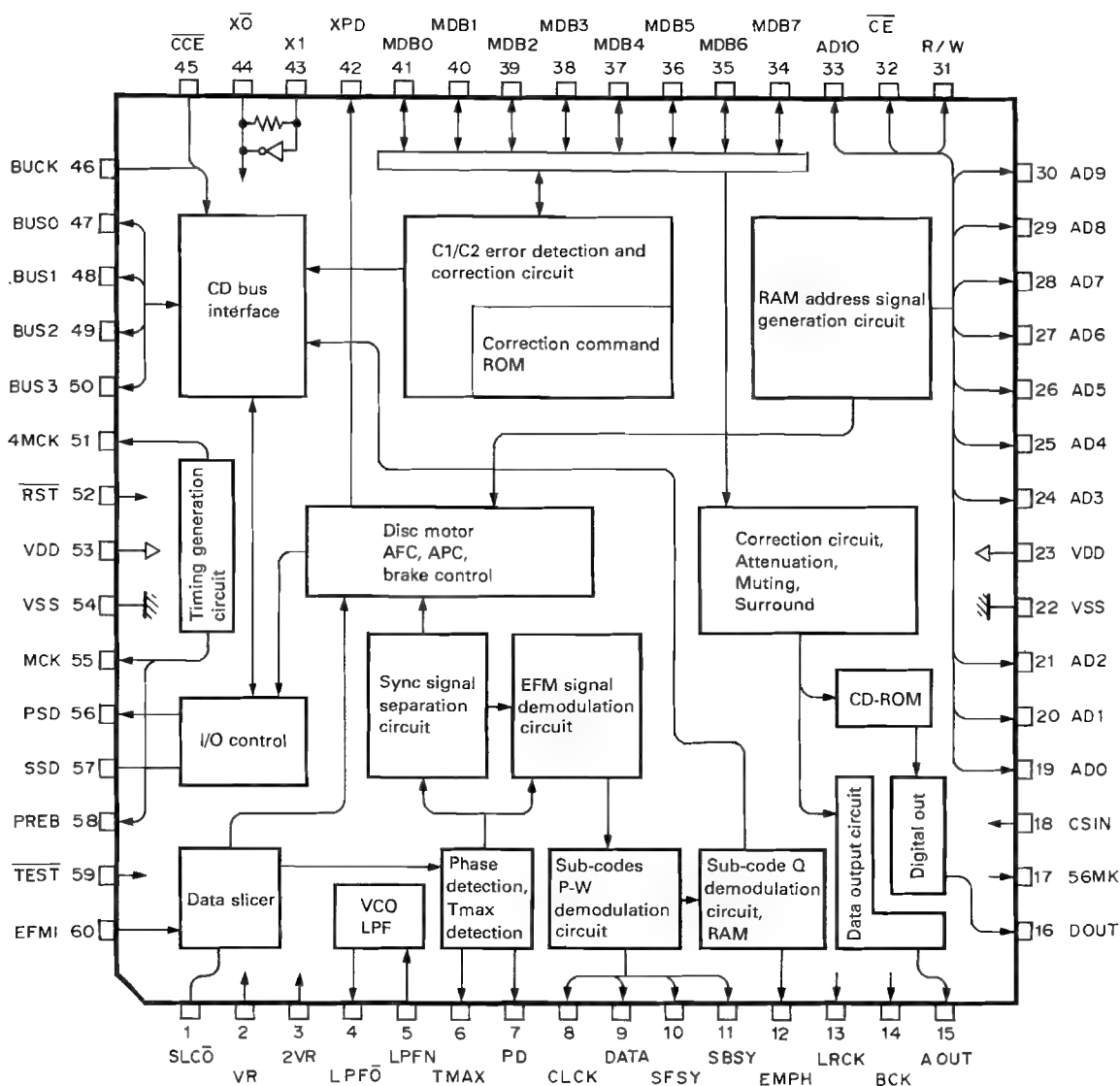
This LSI can materialize a CD player system with high function and simple configuration due to a combined use with servo IC TA8137F (bipolar IC) and servo processor TC9220F (CMOS LSI).

Features:

- Positive operation in sync pattern detection, sync signal protection or interpolation.

- Analog PLL/VCO circuit incorporated.
- Disc motor control circuit incorporated.
- All information processed by total six lines of 4 bus lines, 1 clock line and 1 chip select signal line through virtue of built-in microprocessor interface.
- C1 correction double and C2 correction triple by means of logic formula for CIRC correction.
- 16K SRAM or 256K DRAM for signal processing.
- Digital out CDROM format signal output.
- Audio surround data output (with 256K DRAM).
- Sub-code signal demodulation circuit incorporated.
- Free timing in reading of sub-code Q due to its built-in buffer RAM for 2 blocks.

4-1. Block diagram



CIRCUIT DESCRIPTION

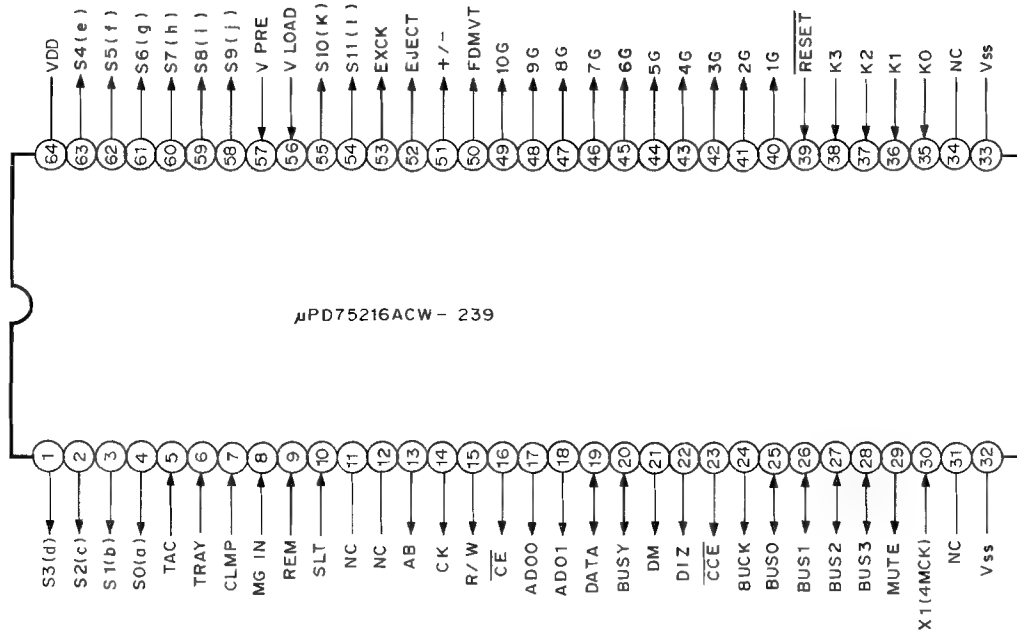
4-2. Explanation of terminals

Pin No.	Pin Name	I/O	Function
1	SCLO	I	Data slicer comparator level set pin.
2	VCOF	–	Built-in VCO input voltage control pin.
3	2VR	–	Reference voltage power supply voltage (4V).
4	LPFO	O	Low pass filter amplifier output pin.
5	LPFN	I	Low pass filter amplifier negative input pin.
6	TMAX	O	PLL frequency control signal output pin.
7	PD	O	PLL phase difference signal output pin.
8	CLCK	I	Sub-code read clock input pin.
9	DATA	O	Sub-code data output pin.
10	SFSY	O	Sub-code frame sync signal output pin.
11	SBSY	O	Sub-code sync output pin.
12	EMPA	O	Emphasis output pin.
13	LRCK	O	LR clock output pin.
14	BCK	O	Bit clock output pin.
15	AOUT	O	Audio data output pin.
16	DOUT	O	Digital out output pin.
17	56MK	O	6.5MHz clock output pin.
18	CSIN	I	Digital out C bit data input pin.
19~21	AD0~AD2	O	External RAM address signal output pins.
24~30	AD3~AD9	O	
33	AD10	O	
22	VSS	–	Ground pin.
23	VDD	–	Power supply voltage pin.
31	R/W	O	External RAM read/write signal output pin.
32	CE	O	External RAM chip enable signal output pin.
34~41	MDB7~MDB0	I/O	External RAM data bus line.
42	X'PD	O	X'tal oscillator connection pins. X'tal oscillator is connected to generate necessary clock signals. X'tal=16.9344MHz
43	XI	I	
44	XO	O	
45	CCE	I	Command or data send/receive chip enable pin.
46	BUCK	I	Command or data send/receive clock input pin.
47~50	BUS0~BUS3	I/O	Command or data send/receive bus line.
51	4MCK	O	4MHz clock output pin.
52	RST	I	Reset input pin.
53	VDD	–	Power supply voltage pin.
54	VSS	–	Ground pin.
55	MCK	O	Master clock output pin.
56	PSD	O	Processor serial data output pin.
57	SSD	I	Servo serial data input pin.
58	PREB	O	Preamble output pin (7.35kHz/32).
59	TEST	I	Test pin. Normally "H" or open for use.
60	EFMI	I	EFM signal input pin.

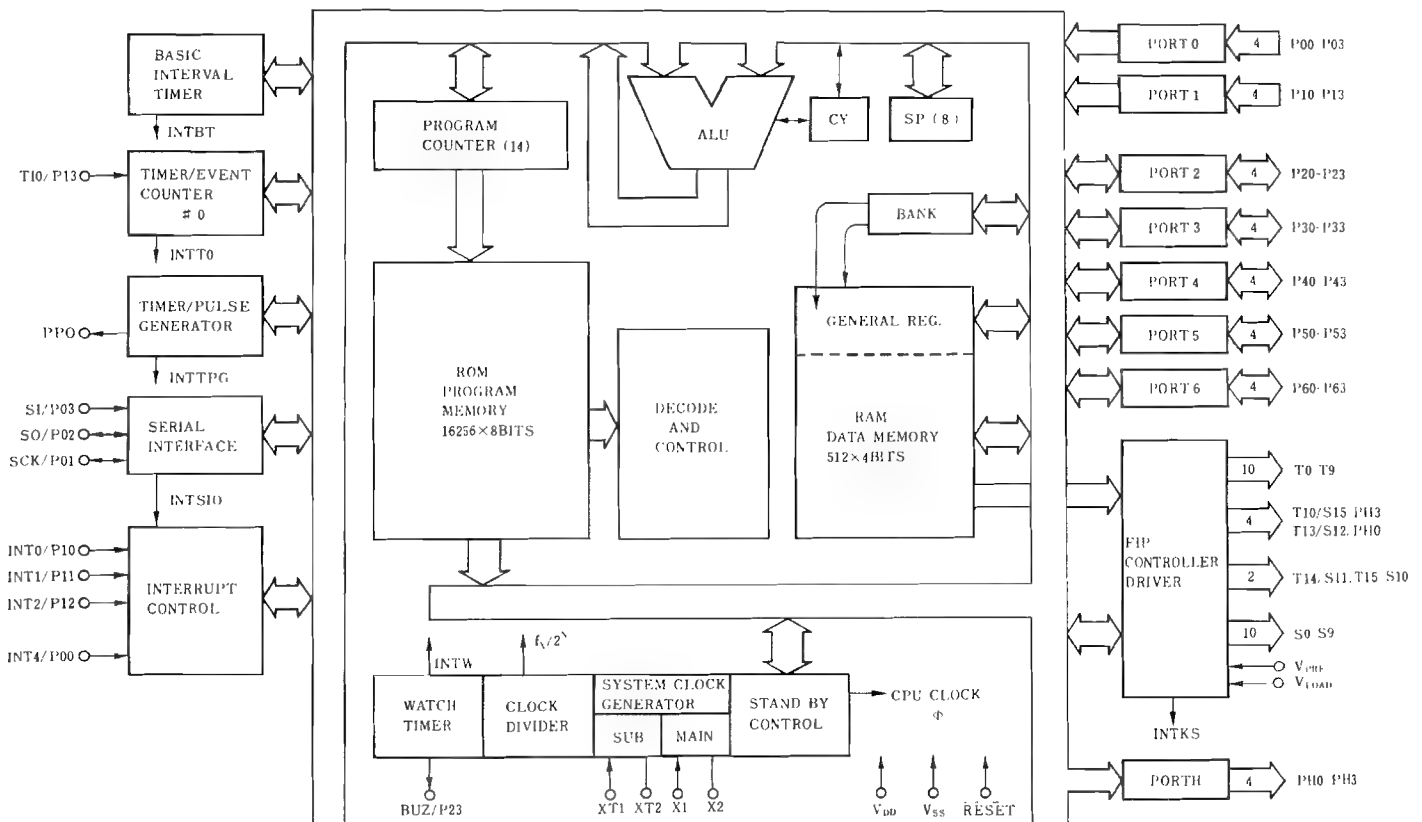
CIRCUIT DESCRIPTION

5. Microprocessor μ PD75216ACW-239 (MAIN PC UNIT : Q310)

5-1. Terminal connection diagram



5-2. Block diagram



CIRCUIT DESCRIPTION

5-3. Explanation of terminals

Pin No.	Pin name	Signal name	I/O	Function
1 ~ 4	S3 ~ S0	Pd ~ Pa	O	FIP segment output (segment d ~ a) and key scan output.
5	P00	TAC	I	TAC sensor signal input. With TAC : "H", Without TAC : "L".
6	P01	TRAY	I	Tray return switch input. Tray out : "H", Tray in : "L".
7	P02	CLMP	I	Clamp switch input. Not clamped : "H", Clamped : "L".
8	P03	MGIN	I	Magazine in switch input. Magazine out : "H", Magazine in : "L".
9	P10	REM	I	Remote control signal input.
10	P11	SLT	I	Start limit switch input. OFF : "H", ON : "L".
11,12	P12, P13	—	I	Unused port (connected to VDD).
13	P20	AB	O	External RAM address output.
14	P21	CK	O	External RAM address control clock output.
15	P22	R/W	O	External RAM read/write signal output.
16	P23	CE	O	External RAM chip enable signal output.
17, 18	P30, P31	ADO0, ADO1	O	External RAM address output.
19	P32	DATA	I/O	System control DATA I/O.
20	P33	BUSY	I/O	System control BUSY I/O.
21	P60	DM	O	Disc motor selection signal. "H" : Disc motor ON, "L" : Lift motor ON.
22	P61	DIZ	O	Tracking coil dither signal output.
23	P62	CCE	O	CD bus chip enable signal output.
24	P63	BUCK	O	CD bus clock output.
25	P40	BUS0	I/O	CD bus data bit 0.
26	P41	BUS1	I/O	CD bus data bit 1.
27	P42	BUS2	I/O	CD bus data bit 2.
28	P43	BUS3	I/O	CD bus data bit 3.
29	PPO	MUTE	O	Mute signal output. "H" : Mute ON, "L" : Mute OFF.
30	X1	4MCK	I	CLock input (4MHz).
31	X2	—	—	NC.
32	Vss	Vss	—	GND voltage pin.
33	XT1	—	—	(Connected to GND.)
34	XT2	—	—	NC.
35 ~ 38	P50 ~ P53	K0 ~ K3	I	Key sense input.
39	RESET	RESET	I	System reset input.
40 ~ 49	T0 ~ T9	1G ~ 10G	O	FIP grid output pin.
41	T1	2G	O	FIP grid output pin.
50	T10	FDMUT	O	Feed motor mute signal output. "H" : Feed motor OFF, "L" : Normal operation.
51	T11	+/-	O	Mechanism up/down selection signal. "H" : Down, "L" : Up.
52	T12	EJECT	O	Eject solenoid ON/OFF signal. "H" : ON, "L" : OFF.
53	T13	EXCK	O	CD bus control clock output (clamp motor control).
54, 55	T14, T15	PI, Pk	O	FIP segment output (segment I, k).
56	VLOAD	VLOAD	—	FIP controller/driver pull-down resistor connection pin (connected to -28V).
57	VPRE	VPRE	—	FIP controller/driver output buffer power supply pin (connected to GND).
58 ~ 63	S9 ~ S4	Pj ~ Pe	O	FIP segment output (segment j ~ e) and key scan output.
64	VDD	VDD	—	Positive power supply pin (connected to +5V).

CIRCUIT DESCRIPTION

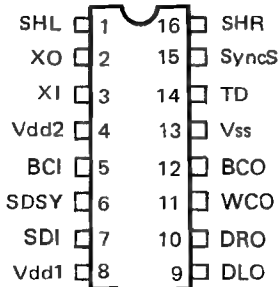
6. Digital filter YM3414 (MAIN PC UNIT : Q503)

Introduction:

The YM3414 (ACDDF) is an ultra-high performance, octuple oversampling digital filter for digital audio.

The YM3414 is directly connectable to digital audio LSI, DIT, DIR, etc., so that excellent filtering property can be easily realized.

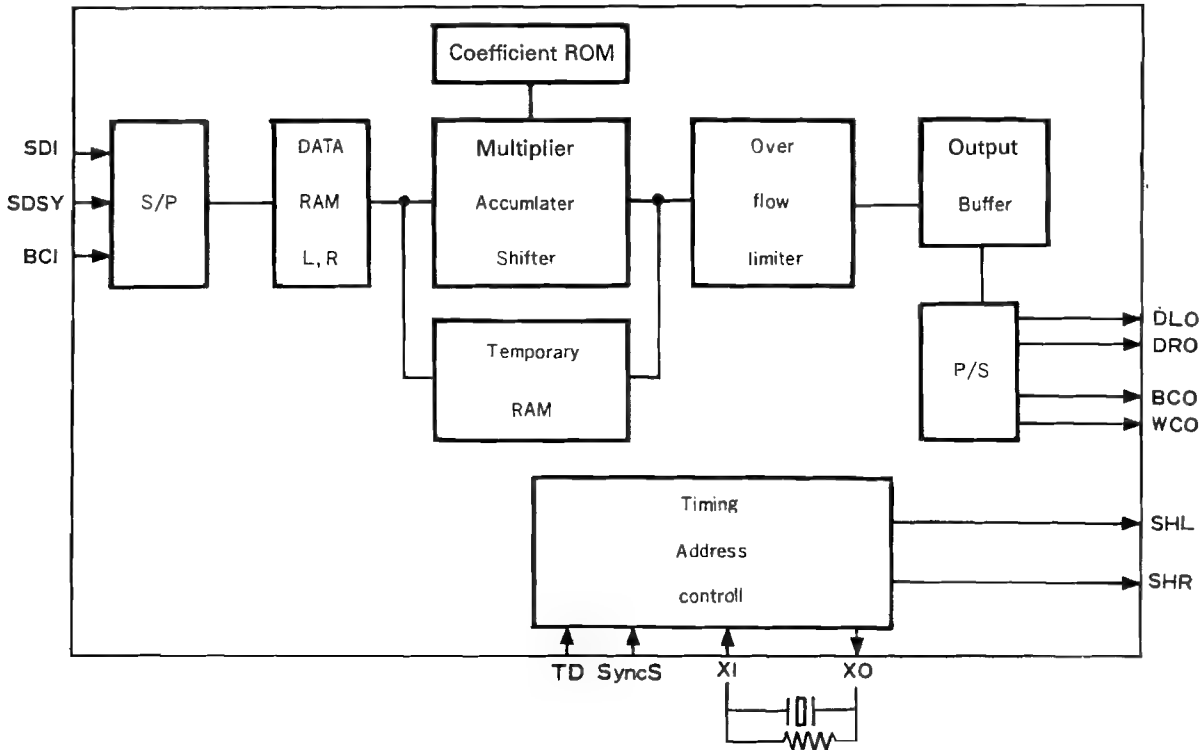
6-1. Terminal connection diagram



Features:

- 2-channel octuple oversampling
- Linear phase FIR filters cascade-connected in 3 stages
 - First filter: 225-order FIR filter
 - Second filter: 41-order FIR filter
 - Third filter: 21-order FIR filter
- Built-in 19x18-bit multiplier
- Coefficient 18-bit floating point multiplication and addition
- Built-in overflow limiter
- Filtering characteristics
 - Pass band ripple: 0 to 20 kHz: within ± 0.001 dB (within 16-bit quantization error)
- High precision oscillation exclusive for filter
- CMOS process
- Single power 5 V
- 16-pin DIP package

6-2. Block diagram



CIRCUIT DESCRIPTION

Function Outline:

A variety of performance is obtained through 3-stage cascade connection of linear phase FIR filters for 2-channel octuple oversampling digital filtering: a 225-order FIR filter at the first stage, a 41-order FIR filter at the second stage and a 21-order FIR filter at the final stage.

The built-in multiplier has a 19x18-bit overflow limiter inside. 18-bit floating-point multiplication/addition is performed for coefficient and word length.

As to the calculational filtering property, the pass band (0 to 20 kHz) ripple is within +/-0.001 dB less than 16-bit quantization error, and the reject band (more than 24.1 kHz) is damped down to less than -100 dB.

The input is of 16-bit 2-channel, MSB first, 2's complement.

The output is feasible in either the 1-DAC or 2 DAC signal format due to the TD "H"/"L" selection. In this case, however, the 1-DAC signal format is for quadruple over-

sampling and the 2-DAC signal format is for octuple oversampling.

The extended portion of the internal multiplication data is output as two bits (-2, -1) lower than LSB. This is not necessary in the 16-bit mode. In this case, care is taken so that the rounding error is minimized at which-ever point it is discarded.

Filtering characteristics (theoretical values),
fs=44.1kHz

Pass band: 0 to 20 kHz

Reject band: 24.1 kHz to 328.7 kHz

(octuple oversampling)

24.1 kHz to 152.3 kHz (quadruple)oversampling)

Pass band ripple: within 0.001 dB

Reject band damping: less than -100 dB

Quadruple oversampling: -0.00013 dB

: 20 kHz -1dB24.1 kHz

Octuple oversampling: -0.00016 dB: 20 kHz

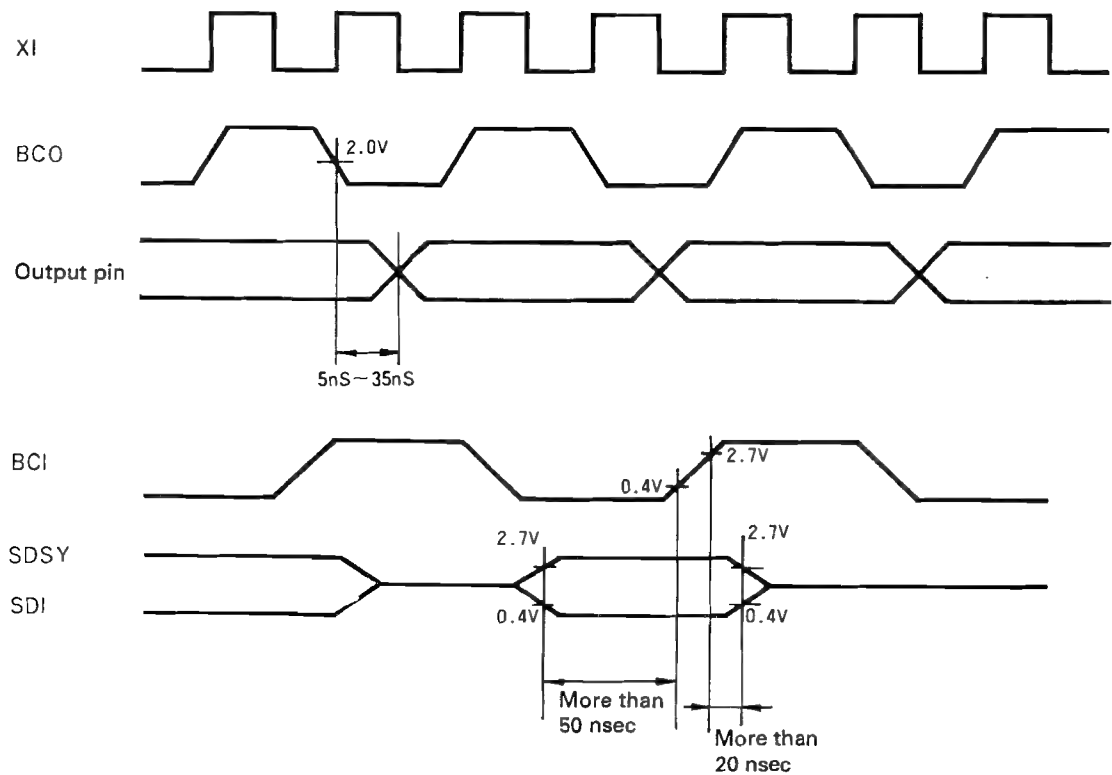
-104 dB: 24.1 kHz

6-3. Explanation of terminals

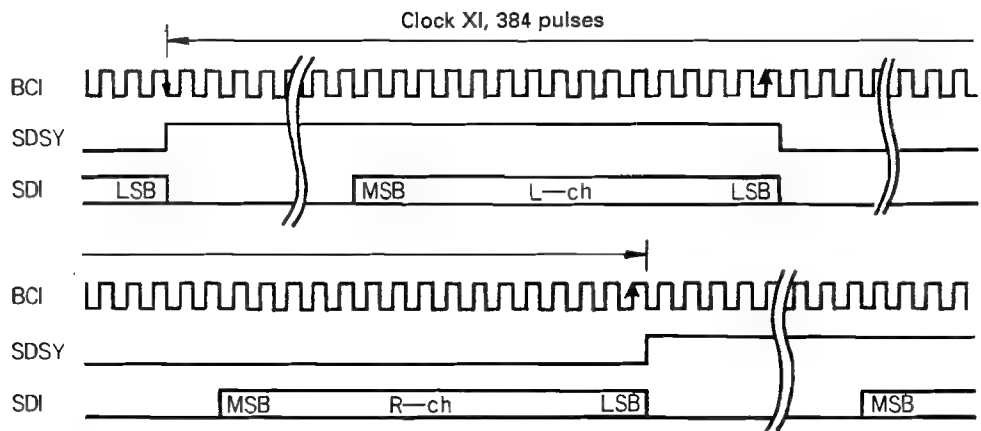
Pin No.	Pin Name	I/O	Function
1	SHL	O	With one DAC (TD="L") : L-ch deglitcher signal. (in quadruple oversampling) With two DACs (TD="H") : L/R-ch deglitcher signal (in octuple oversampling)
2	XO	O	X'tal oscillation between pins XI and XO.
3	XI	I	Clock rate of 384fs. (Direct input to XI from outside is also possible.)
4	Vdd2		+5V power supply pin for X'tal oscillation and deglitcher signal.
5	BCI	I	Input data bit clock input pin.
6	SDSY	I	Input data L/R-ch discrimination and input timing indication clock input pin.
7	SDI	I	Data input pin.
8	Vdd1		+5V power supply pin for digital signal system.
9	DLO	O	With one DAC (TD="L") : L/R-ch data output pin. (in quadruple oversampling) With two DACs (TD="H") : L-ch data output pin. (in octuple oversampling)
10	DRO	O	R-ch data output pin.
11	WCO	O	Output data DLO/DRO word clock output pin.
12	BCO	O	Output data bit clock output pin.
13	Vss		Ground pin.
14	TD	I	1-DAC/2-DAC select input pin. (1-DAC (quadruple)="L", 2-DACs=(octuple)="H")
15	SyncS	I	Async input jitter absorption sync signal input pin. (Syncs "H" : full sync input, Syncs "L" : SDSY inhibit)
16	SHR	O	1-DAC R-ch deglitcher signal output pin.

CIRCUIT DESCRIPTION

6-4. Timing diagram



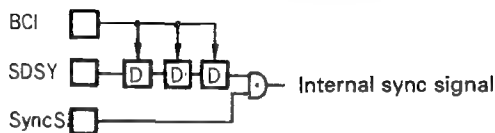
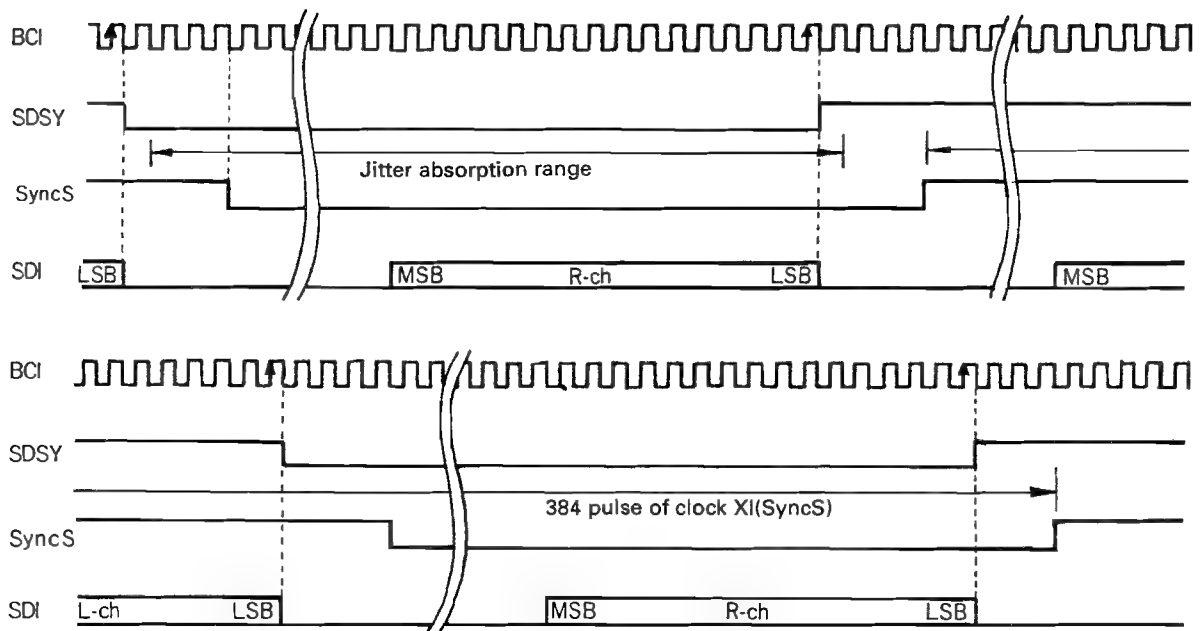
6-5. Input signal format



Full sync input SyncS="H":

If there are 384 pulses of clock XI between the leading edge of SDSY and the next leading edge, any number of pulses of clock BCI is permitted. BCI, SDSY and SDI are in full sync with the XI clock. Thus, they are sent out on a clock obtained from dividing XI, where any relationship of phase with XI is not specified. SDSY and SDI are in sync at leading edge.

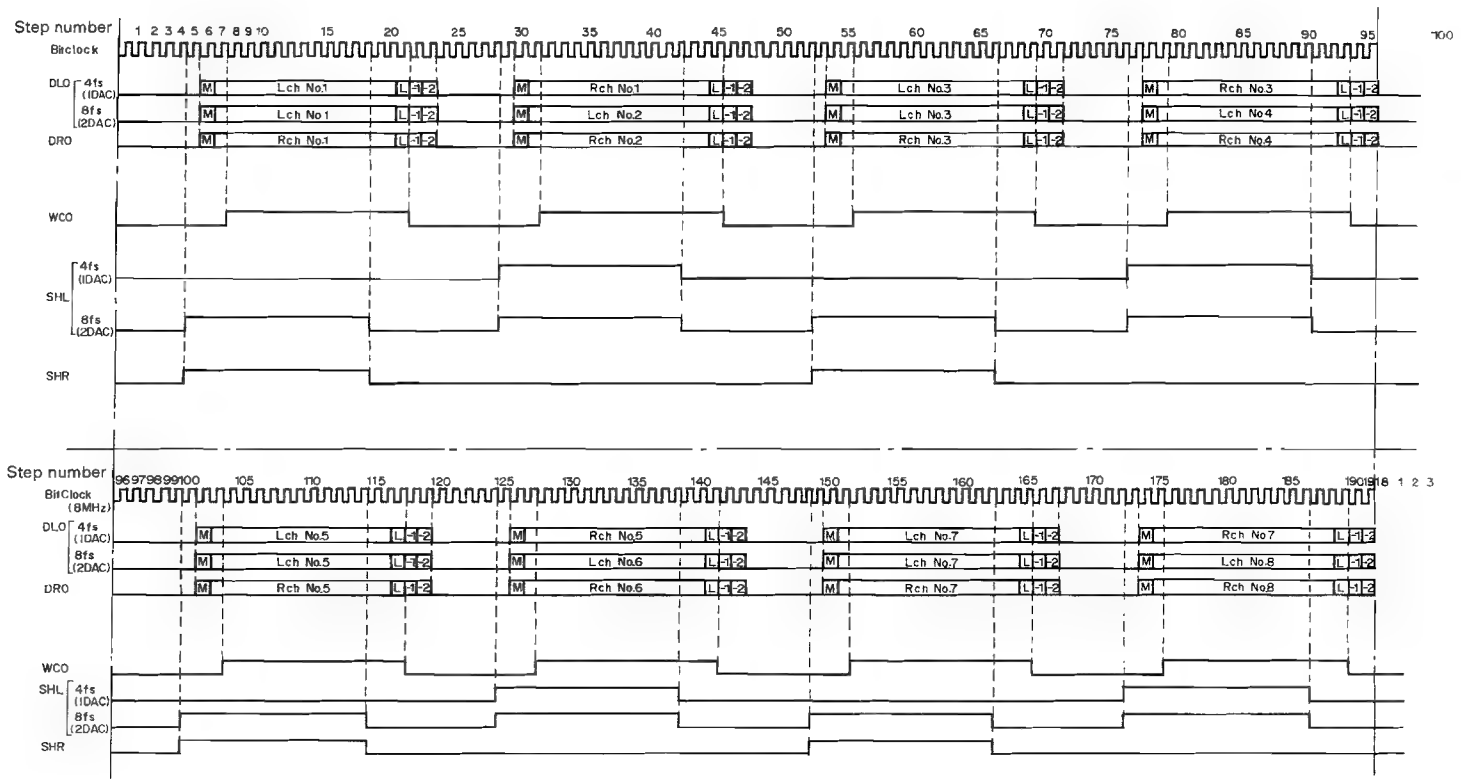
CIRCUIT DESCRIPTION



Async input:

SDSY is masked by SyncS. Namely, SDSY is delayed 3 pulses of clock BCI and is ANDed with SyncS to become an internal calculation start signal. For this end, SyncS needs to be in full sync with clock XI. It can be thus permitted that SDSY, BCI or SDI contains jitter.

6-6. Output signal format



DP-M6010

ADJUSTMENT/REGLAGE/ABGLEICH

Adjustment

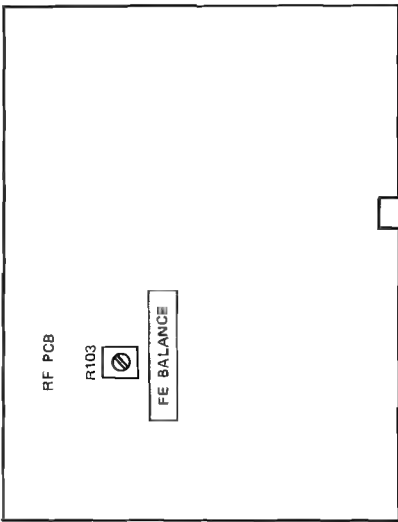
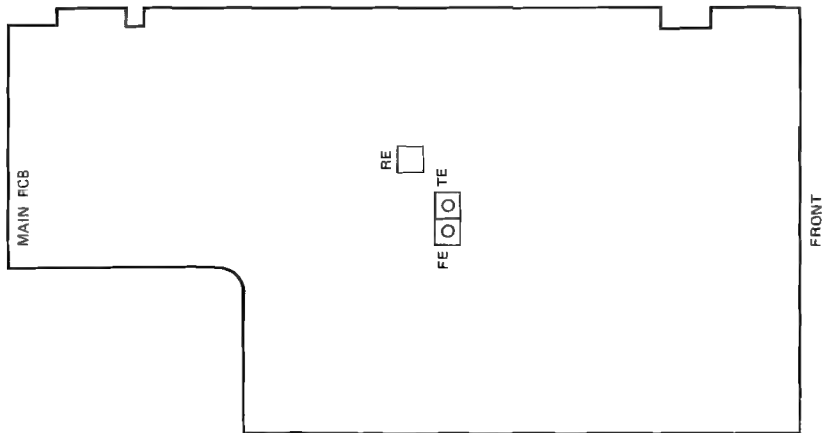
NO.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FORFIG	FIG
1	FOCUS ERROR BALANCE	TEST DISC	Connected an oscilloscope CH1 : RF (MAIN PCB) CH2 : TE (MAIN PCB) Connected an oscilloscope to RF for CH1 and for CH2. (MAIN PCB)	PLAY	FE BALANCE (RF PCB)	Optimum eye pattern	(a)

Reglages

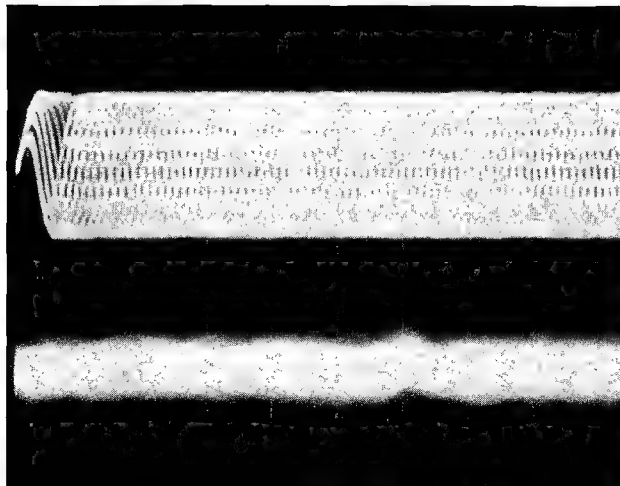
N°	ITEM	REGLAGE D' ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LECTURE	POINT D' ALIGNEMENT	ALIGNEMENT POUR	FIG
1	BALANCE D' ERREUR DE MISE AU POINT	DISQUE TEST TYPE 4	Connecter un oscilloscope comme suit. CH1 : RF (MAIN PCB) CH2 : TE (MAIN PCB) Connecter un oscilloscope à RF pour CH1 et TE pour CH2. (MAIN PCB)	PLAY	FE BALANCE R103 (RF PCB)	Form optimum	(a)

Abgleich

NR.	GEGENSTAND	EINGANGS- EINSTELLUN	AUSGANGS- EINSTELLUNG	SPIELER- EINSTELLUNG	ABGLEICH- PUNKT	ABGLEICHUNG	ABB.
1	FOKUS- FEHLERAUSGLEICH	TEST DISC TYP 4	Ein Oazilloskop wie folgt anschießen. Kanal1 : RF (Haupt-Platine) Kanal2 : TE (Haupt-Platine) Ein Oszilloskop an RF für Kanal1 und TE für Kanal2 anschießen. (Haupt-Platine)	PLAY	FOKUS- FEHLERAUSGLEICH R103 (RF PCB)	Optimales Augenmuster	(a)



ADJUSTMENT/REGLAGE/ABGLEICH



CH1 RF
1.0V/div

CH2 E.Spot
0.1V/div

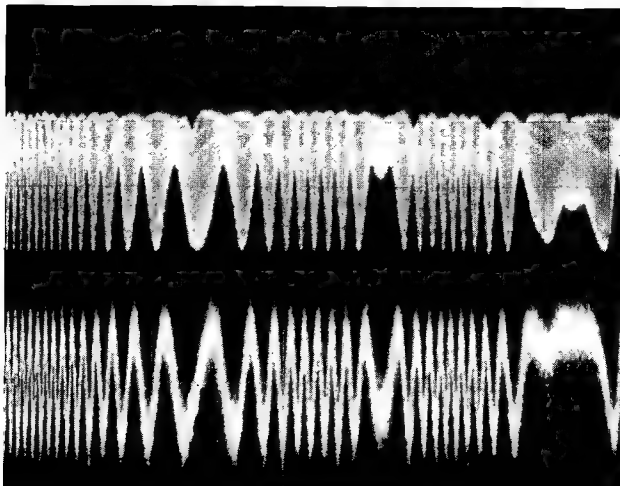
AC coupling for
CH2 only
Couplage CA pour canal 2 seulement
AC-Kopplung nur für Kanal 2

(2 μ sec/div) ↑ Projection
Projection
Hervorstehung

(Photo. 4)

(Photo. 4)

(Foto. 4)



CH1 RF
1.0V/div

CH2 T.Error
2.0V/div

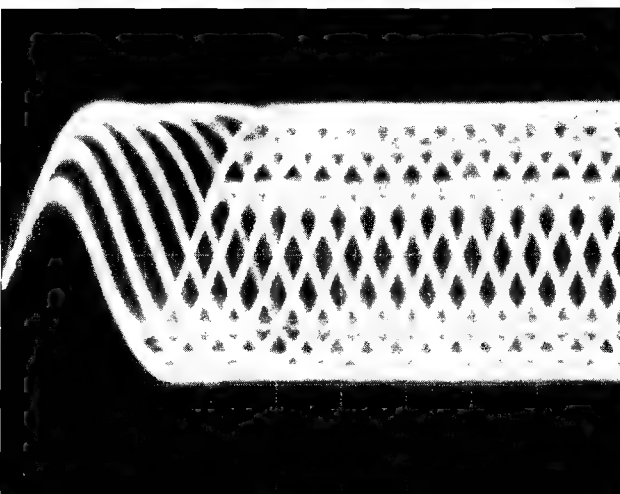
← 0(V)
← 0(V)

(20msec/div)

(Photo. 5)

(Photo. 5)

(Foto. 5)



RF signal
0.5V/div

(0.5 μ sec/div)

(Photo. 6)

(Photo. 6)

(Foto. 6)

- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 12 μ s after RF signal, in the form of a projection.
- Signal RF et signal E.Spot en mode de test (PLAY).
- Si le réseau de diffraction a été ajusté correctement, l'influence du déclenchement s'observe sur la forme d'onde E.Spot d'environ 12 μ s après le signal RF, sous la forme d'une projection.
- RF-Signal und E.Spot-Signal im Testmodus (PLAY).
- Wenn das Diffraktionsgitter richtig eingestellt wurde, wird der Einfluß des Triggers in der E.Spot-Wellenform etwa 12 μ s nach dem RF-Signal in der Form einer Hervorstehung beobachtet.
- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 4)
- Adjust T.Error so that the waveform is symmetrical above and below 0V.
- Signal RF et signal T.Error; en mode test (mise au point ON). (Disque de type 4)
- Ajuster T.Error pour que la forme d'onde soit symétrique en-dessus et au-dessous de 0V.
- RF-Signal und T.Error-Signal; im Testmodus (Fokussierung eingeschaltet). (Disc-Typ 4)
- T.Error so einstellen, daß die Wellenform über und unter 0V symmetrisch ist.
- RF signal in test mode (PLAY).
- Perform the tangential and focusing offset adjustments so that each of the center cross points are focused into one point on the display. The crossing points above and below the center shall also be displayed clearly.
- Signal RF en mode de test (PLAY).
- Effectuer les ajustements d'offset tangentiel et de mise au point pour que chacun des points de croisement central soit mis au point sur un point de l'affichage. Les points de croisement au-dessus et en-dessous du centre doivent aussi être affichés clairement.
- RF-Signal im Testmodus (PLAY).
- Die Tangential- und Fokusversatz-Einstellungen so durchführen, daß jeder der mittleren Kreuzungspunkte in einem Punkt auf dem Display fokussiert wird. Auch die Kreuzungspunkte über und unter der Mitte müssen klar angezeigt werden.

VOLTAGE TABLE

RF-PC UNIT

Q101

1, 2	2.0V	19, 20	0.9V		B	E	C
3	0.9V	21	4.0V	Q102	4.4V	4.9V	1.6V
4~6	2.0V	22	1.0V				
10	4.4V	23	0V				
11, 12	0V	24	5.0V				
13~17	2.0V						

MAIN-PC UNIT

Q202

1~3	0V
4	5.0V
5~7	0V
8	-5.0V

Q301

1	2.0V
2	5.0V
3	1.0V
4, 5	2.0V
15	0V
17	2.6V
18	2.5V
19	1.3V
20	4.3V
21	2.6V
22	0V
23	5.0V
24	5.0V
26	2.6V
29	3.6V
31, 32	0V
33	0.6V
34	0V
37	5.0V
38	0V
41	0V
42, 43	5.0V
44	2.0V
46	2.0V
48	0V
50	2.0V
53	5.0V
54	0V

Q302

1, 2	2.0V
3	4.0V
4	4.3V
5	1.3V
7	2.0V
12	5.0V
13	2.2V
14	2.6V
15	0V
19~21	2.6V
22	0V
24~30	2.6V
31, 32	2.4V
33	2.8V
34~37	2.7V
38	5.0V
39, 40	3.0V
41	3.5V
43	2.6V
45	4.1V
46	4.5V
47	4.8V
48, 49	4.4V
50	4.1V
51	2.6V
52, 53	5.0V
54	0V
55	2.6V
56	4.3V
57	1.3V
58	2.5V
60	0V

Q303

1	0V
2	2.0V
4, 5	0V
6, 7	2.0V
8	0V
9	4.0V
10	8.0V
12, 13	0V
15	8.0V
16	4.0V

Q304

1~3	5.0V
5	0V
6	5.0V
7, 8	0V

Q305

1	2.0V
2	0V
3	-5.0V
4	5.0V
5, 6	0V
7	5.0V
8	-5.0V
9, 10	0V
11, 12	2.0V
13	-5.0V
14	5.0V
15	0V
17	5.0V
18	-5.0V
19, 20	0V

Q306

1~3	2.0V
4~7	0V
8	5.0V

Q307

1~3	2.0V
4	0V
5~7	2.0V
8	5.0V

Q308

4	-10.8V
5	2.9V
6	4.3V
7	9.8V
8	10.6V

Q309

1~3	5.0V
5	0V
6	2.9V
7, 8	0

Q310

1	-10.0V
2	-5.2V
3, 4	-5.0V
6	0V
7, 8	5.0V
9	4.9V
10	0V
11, 12	5.0V
13	0V
14~18	5.0V
19, 20	0V
21	5.0V
22	0V
23	4.0V
24	4.5V
25	4.8V
26, 27	4.4V
28	4.1V
29	4.9V
30	2.6V
32, 33	0V
35~38	0V

Q310

39	5.0V
40~48	-21.0V
49	-21.1V
50	5.0V
51, 52	0V
53	5.0V
54	-14.5V
55	4.6V
56	-23.5V
57	0V
58	-6.9V
59	-15.2V
60	-20.5V
61	-17.8V
62	-7.8V
63	-5.1V
64	5.0V

Q311

1	0V
2	5.0V
3~7	0V
8	5.0V
9	0V
10	5.0V
11	4.1V
12, 13	4.4V
14	4.8V
15, 16	5.0V
17	0V
18	5.0V

Q312

1~7	0V
8, 9	5.0V
10	0V
11	5.0V
12, 13	0V
14	5.0V

Q313

9~11	3.5V
12	0V
13	5.0V
14~17	2.7V
18	0V
19	2.8V
20, 21	2.4V
24	5.0V

Q325

1	5.0V
2	0V
3	5.0V

Q401

1, 2	5.0V
3	4.7V
4	4.4V
5	5.0V
6	4.4V
7, 8	0V
9	5.0V
11	4.0V
13, 14	5.0V
16	5.0V

Q403

1	5.0V
2	3.2V
3	2.5V
4	5.0V
5	3.2V
7	0V
9	2.7V
10	5.0V
11	2.5V
12	2.6V
13, 14	5.0V

Q404

1	5.0V
3~5	2.5V
6, 7	0V
9	0V
11	0V
12, 13	2.5V
14	5.0V

Q405

1~4	5.0V
7	0V
8~10	5.0V
11	2.5V
12~14	5.0V

Q501

1	-5.0V
2	0V
3	5.0V
5	2.7V
6	3.2V
7	0.2V
8	-5.0V
9, 10	0V
11~13	0V
16	5.0V

Q502

1	-5.0V
2	0V
3	5.0V
5	2.7V
6	3.2V
7	0.2V
8	-5.0V
9~13	0V
16	5.0V

Q503

3	2.6V
4	5.0V
5, 6	2.6V

Q503

7	0V
8	5.0V
9, 10	0.2V
11	3.2V
12	2.6V
13	0V
14, 15	5.0V

Q504

1~3	0V
4	-5.0V
5~7	0V
8	5.0V

Q505

1~3	0V
4	-5.0V
5~7	0V
8	5.0V

Q506

1~3	0V
4	-5.0V
5~7	0V
8	5.0V

Q901

1	10.6V
2	0V
3	8.0V

Q902

1	10.6V
2	0V
3	5.0V

Q903

1	10.6V
2	0V
3	5.0V

Q904

1	0V
2	-10.8V
3	-5.0V

	B	E	C
Q314	2.6V	2.0V	2.0V
Q315	0V	0V	2.0V
Q316	4.4V	4.9V	10.6V
Q317	0V	0V	4.5V
Q318	0.7V	0V	0V
Q319	0V	0V	1.6V

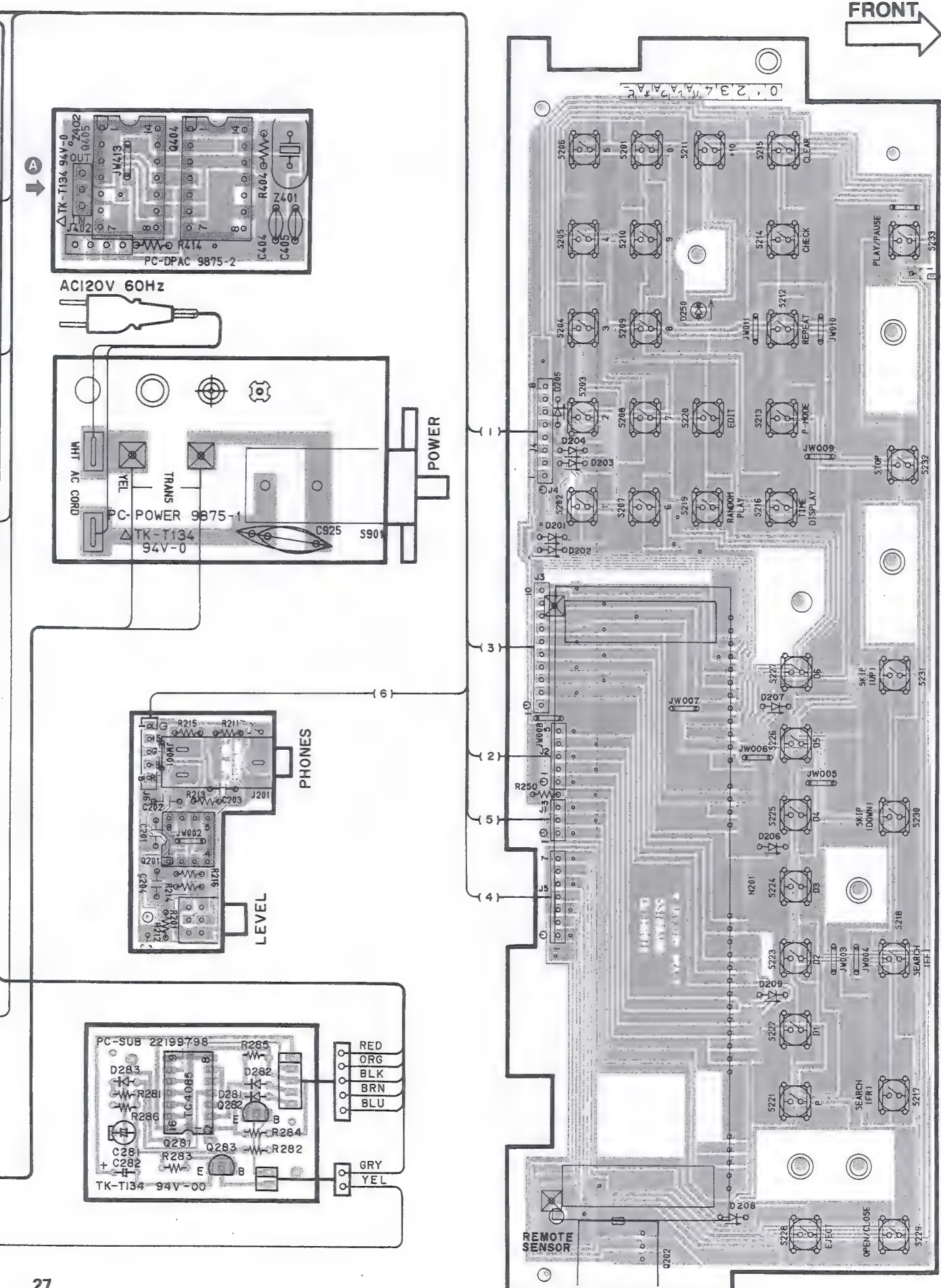
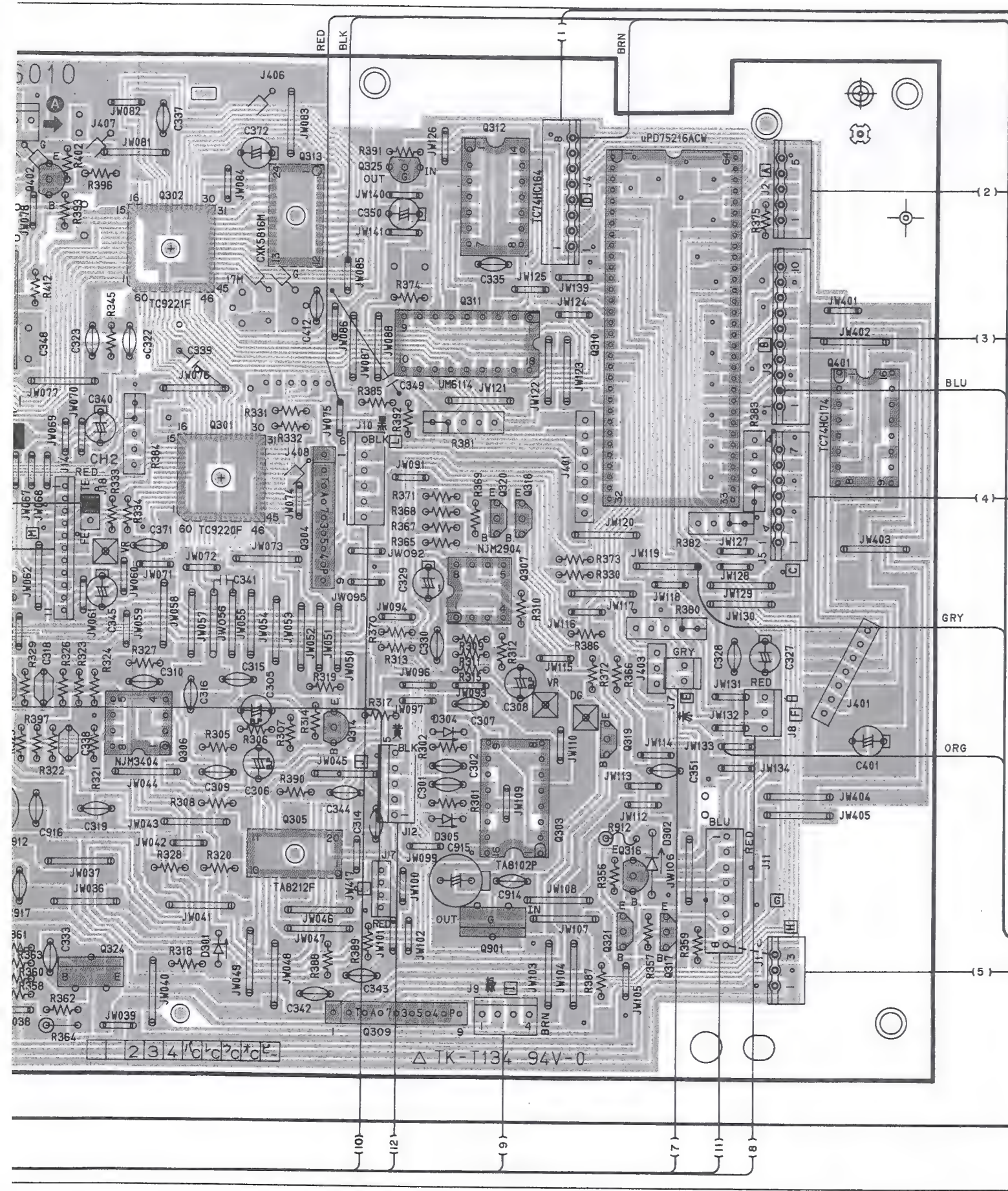
	B	E	C
Q320	1.6V	2.0V	2.0V
Q321	4.5V	5.0V	4.4V
Q322	3.8V	4.4V	4.4V
Q324	9.8V	10.6V	2.9V
Q402	0.4V	0V	2.6V
Q507	-2.5V	0V	0V

	B	E	C
Q508	-2.5V	0V	0-V
Q509	0.7V	0V	0V
Q510	0.7V	0V	0V
Q905	0V	1.9V	0V
Q906	1.2V	0V	0V
Q907	0.7V	0V	0V
Q908	0V	0V	1.9V

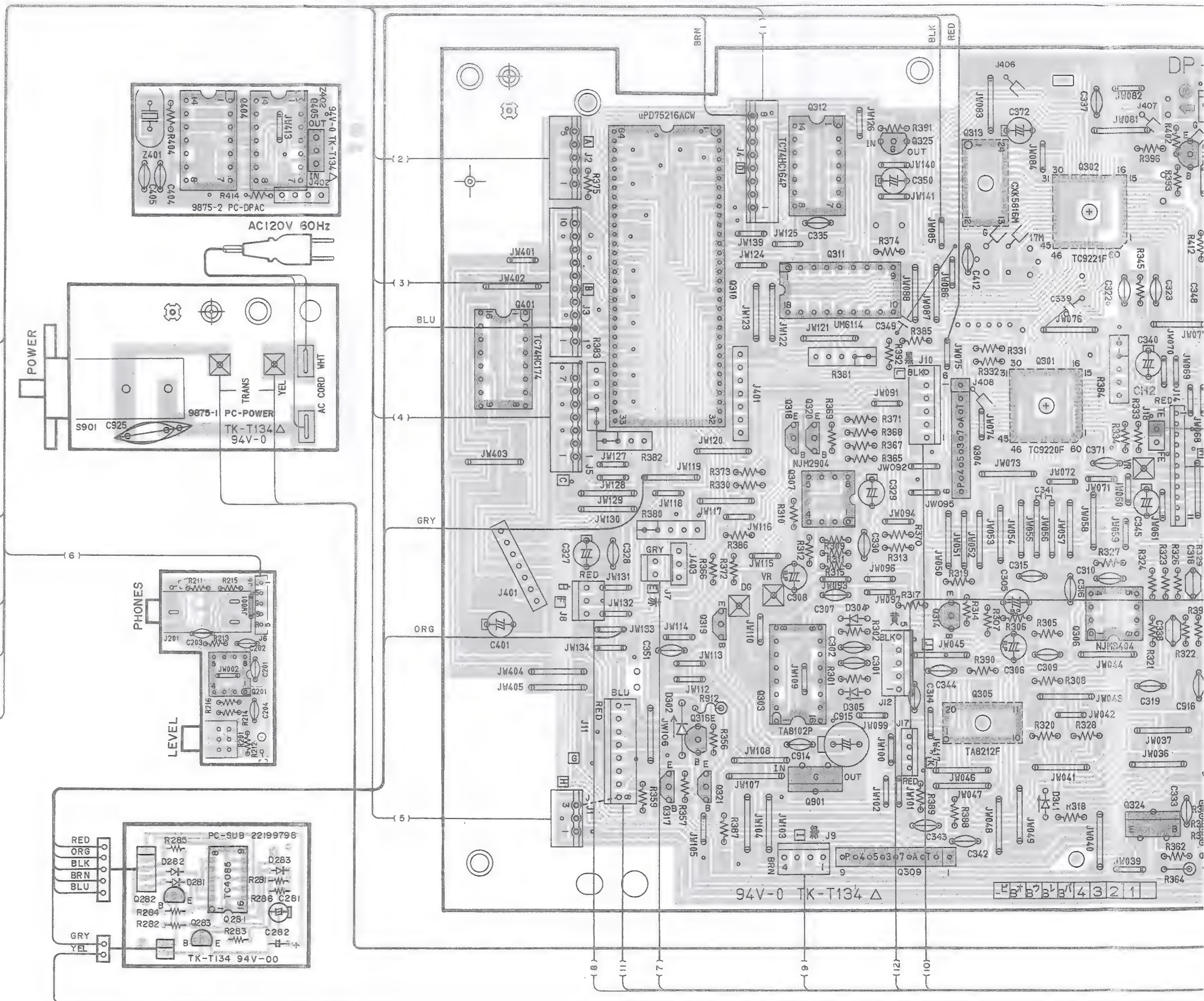
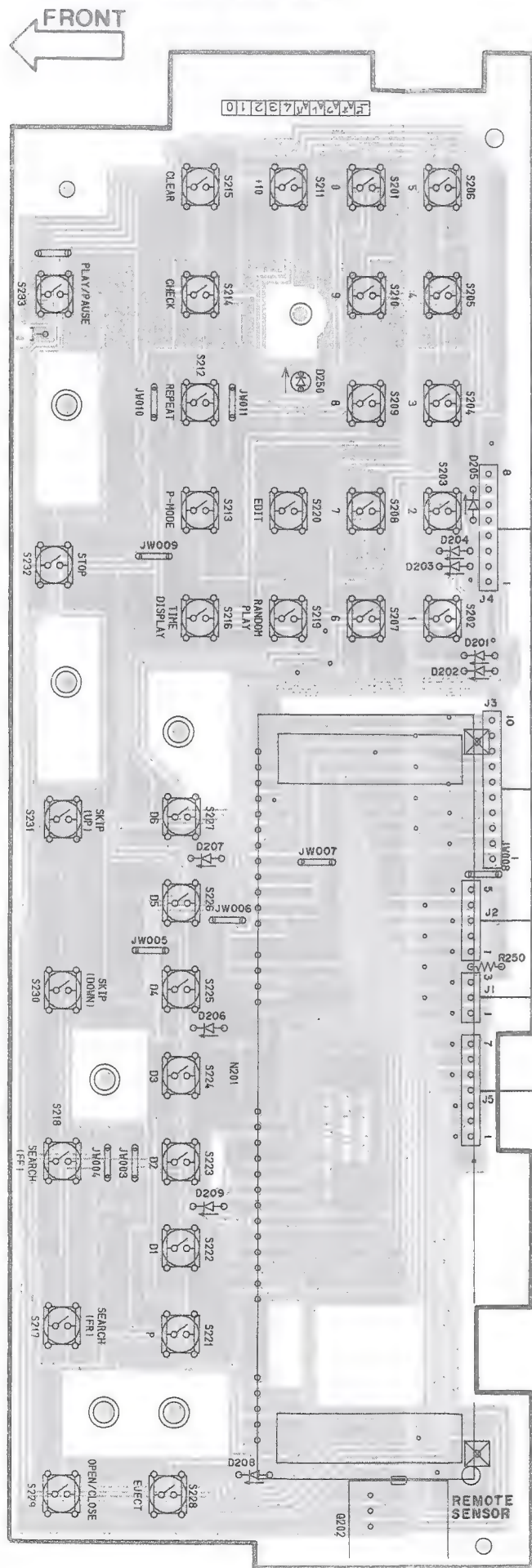
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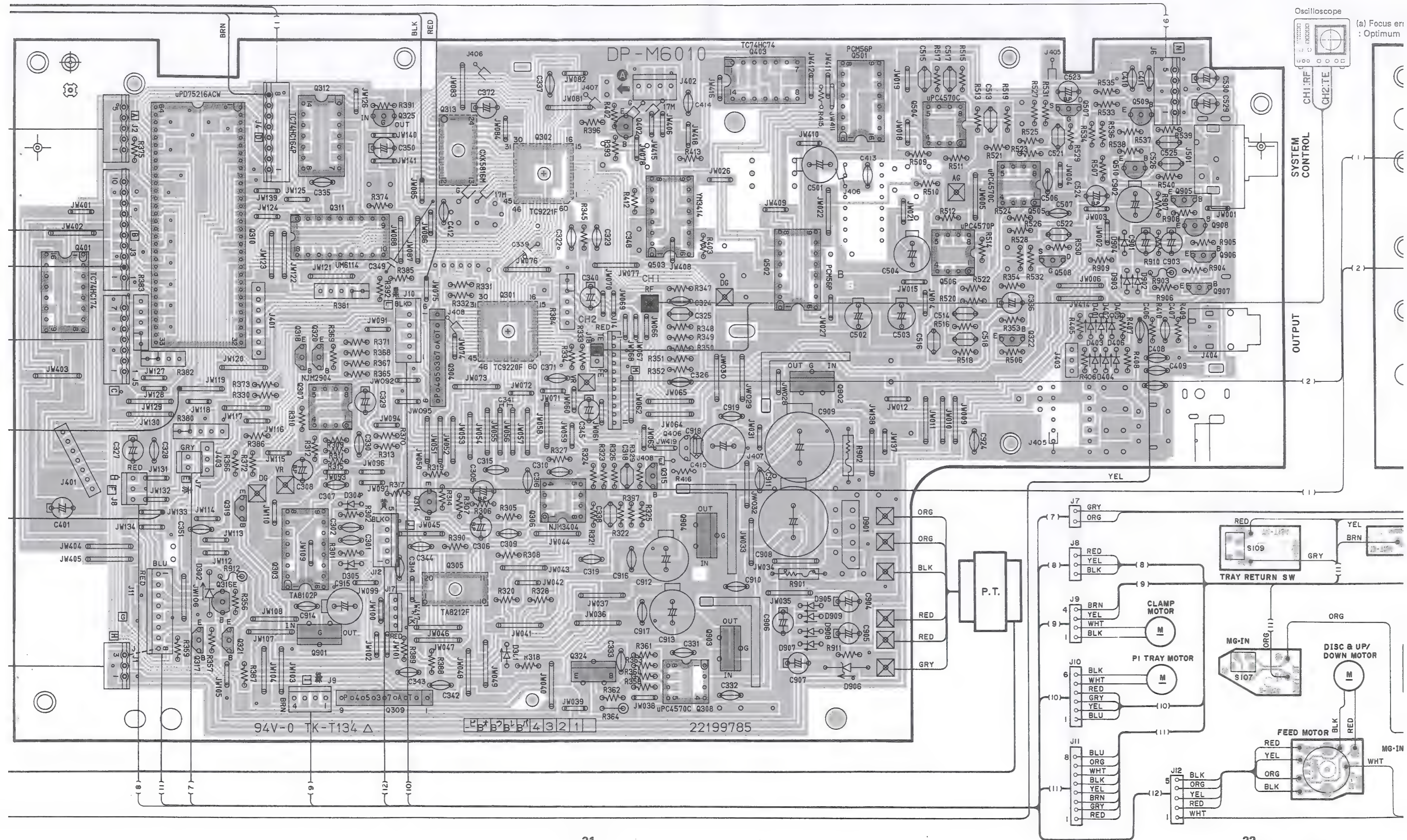
7

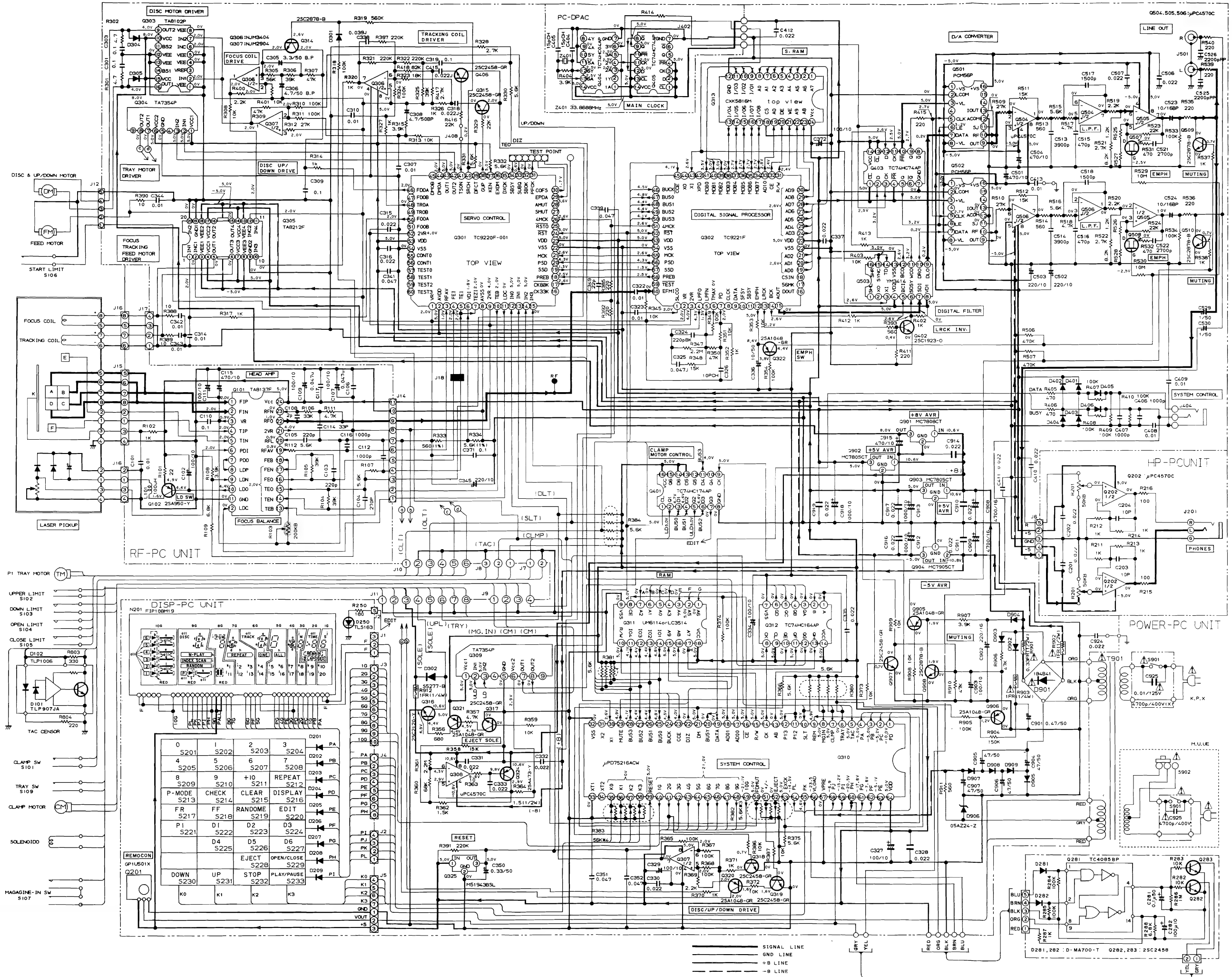




PC BOARD (FOIL SIDE VIEW)





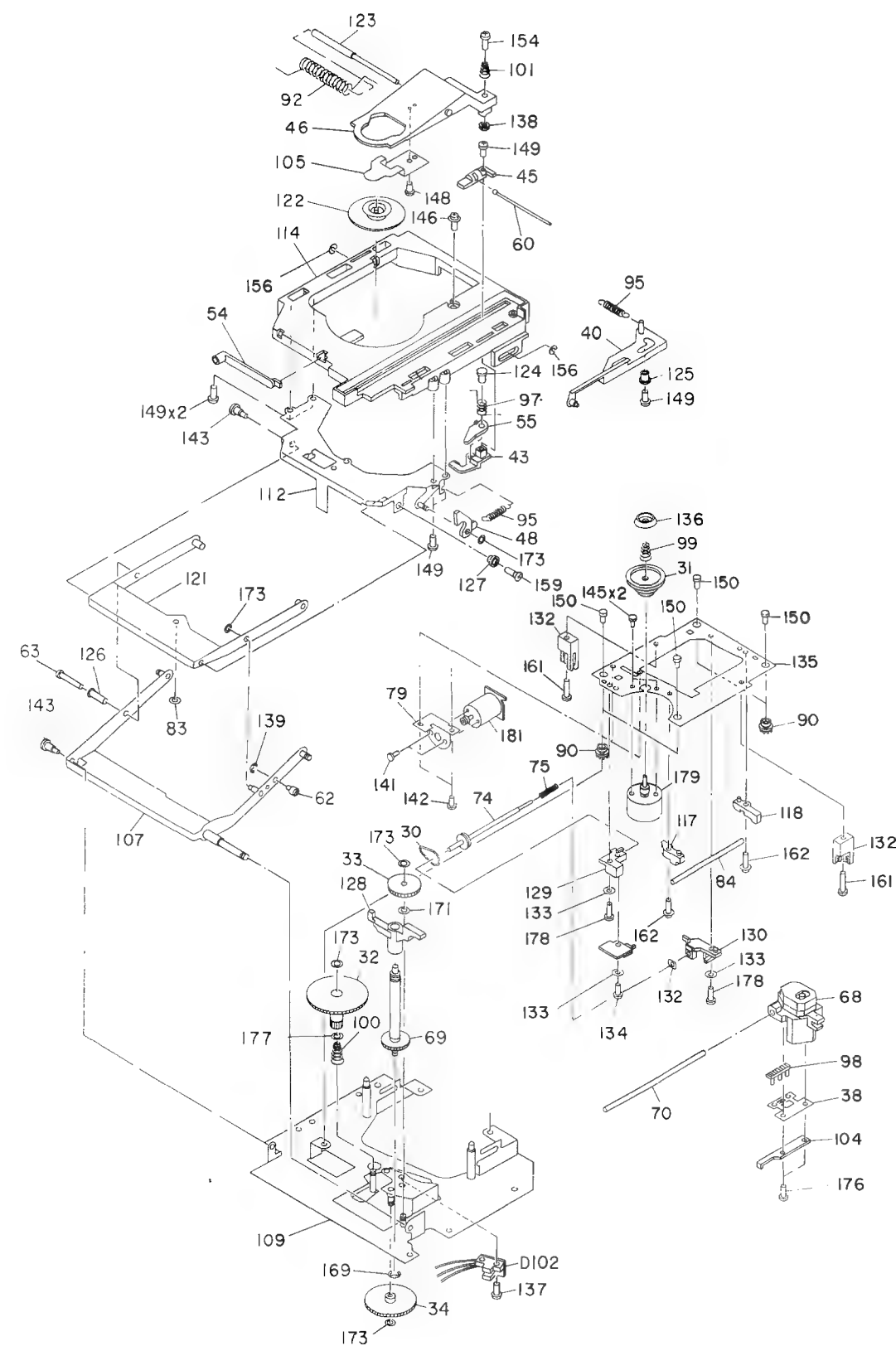


SIGNAL LINE
GND LINE
+B LINE
-B LINE

D281, 282 : D-M7000-T Q282, 283 : 2SC2458

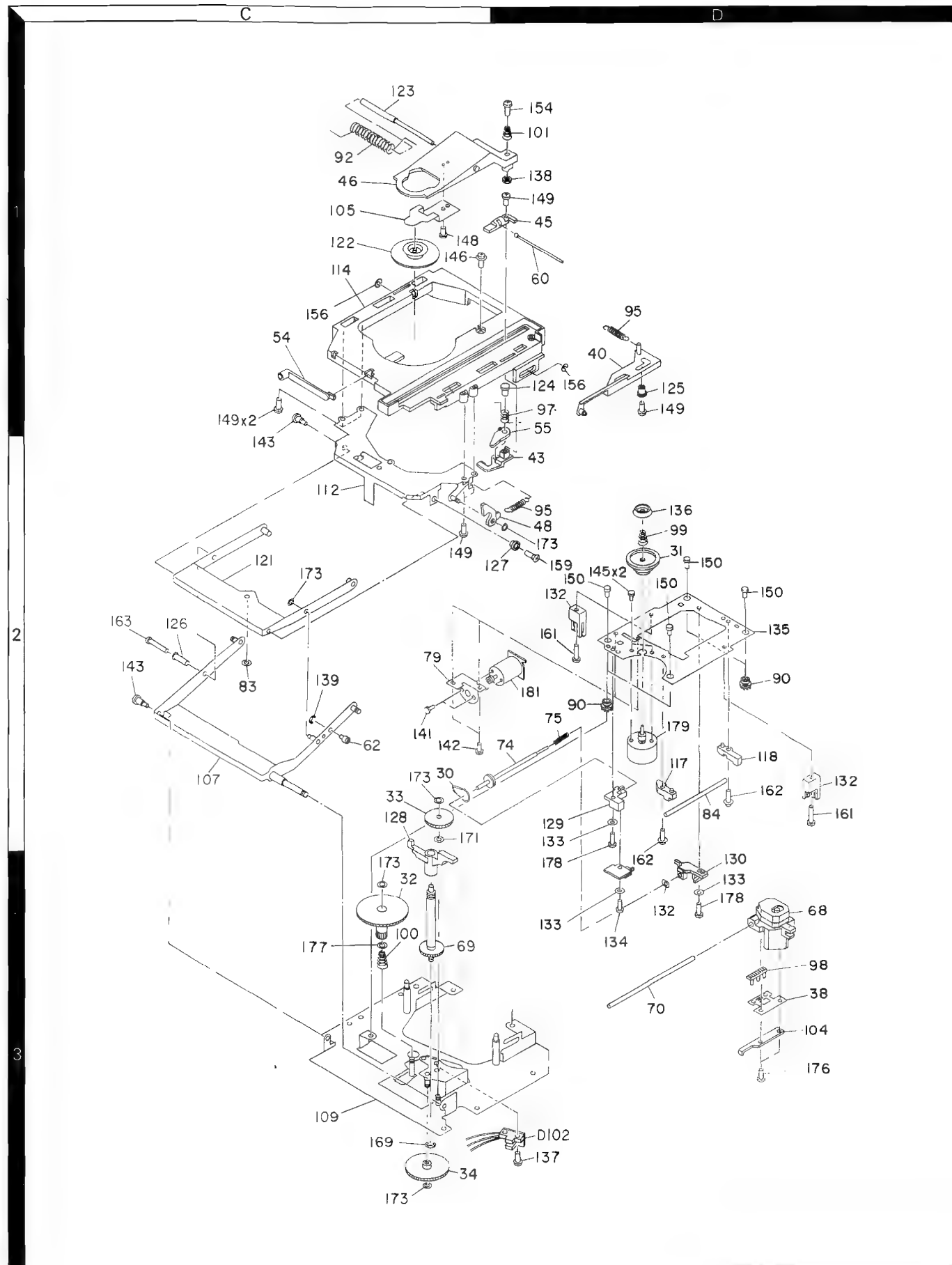


EXPLODED VIEW (MECHANISM)



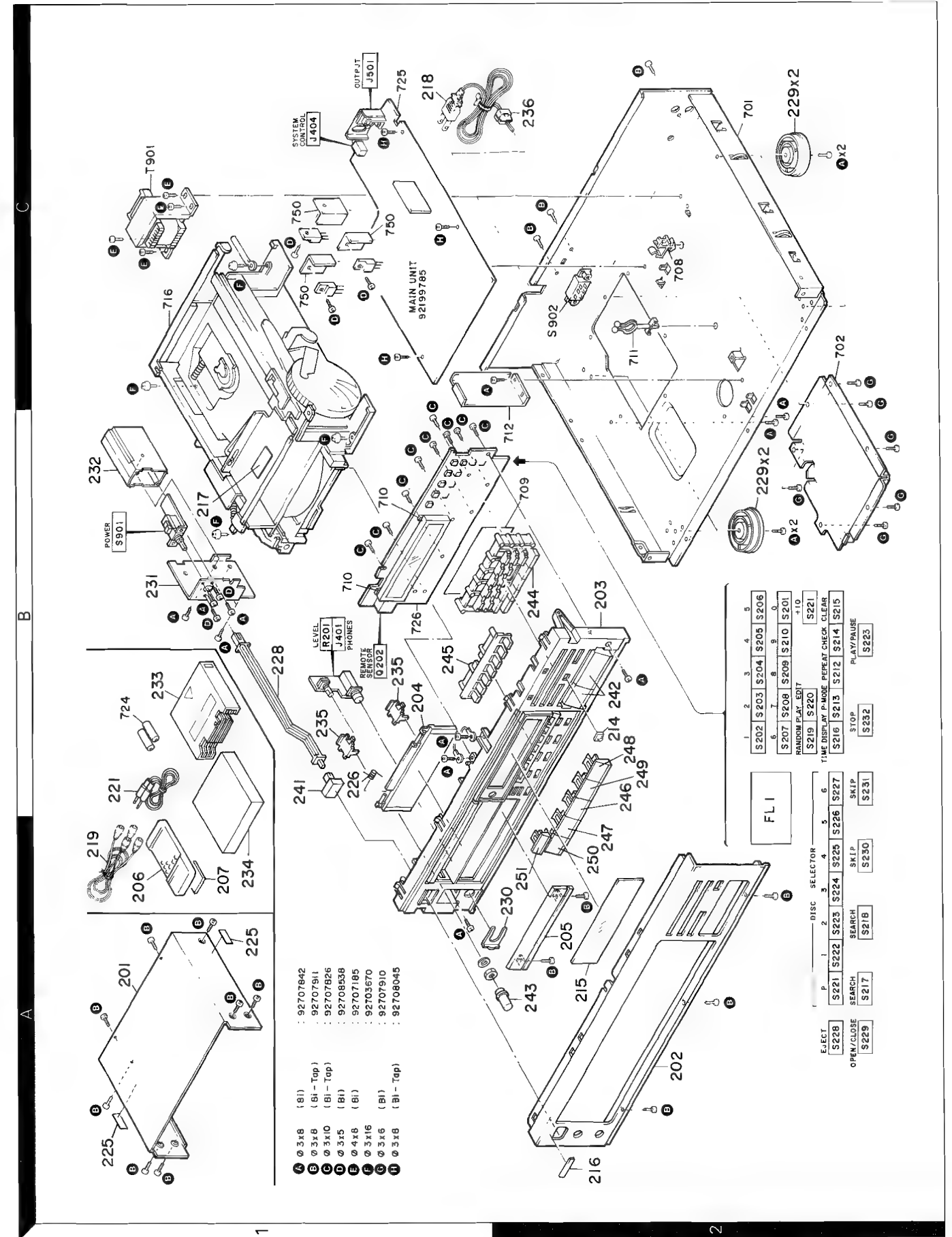
Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (UNIT)



PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
DP-M6010						
201	1E	*	A01-1742-01	METALLIC CABINET		
202	2E	*	90836875	FRONT PANEL		
203	1E, 1F	*	90017613	SUB PANEL ASSY		
204	2E	*	A29-0149-03	PANEL (MAGAZINE COVER)		
205	2E	*	90848928	TRAY PANEL ASSY		
206	1E	*	A70-0291-08	REMOTE CONTROLLER ASSY		
207	1F	*	22882258	BATTERY CASE (A70-0291-08)		
214	2F		B12-0048-04	INDICATOR		
215	2E	*	92837935	FRONT GRASS		
216	1E		B43-0287-04	KENWOOD BADGE		
217	1F		92907153	LABEL (LASER)		
-			B46-0092-03	WARRANTY CARD		K
-			B46-0094-03	WARRANTY CARD		UUE
-			B46-0095-03	WARRANTY CARD		UUE
-			B46-0096-13	WARRANTY CARD		X
-			B46-0121-03	WARRANTY CARD		P
-		*	B50-9735-08	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-9736-08	INSTRUCTION MANUAL (FRENCH)		PM
-		*	B50-9737-08	INSTRUCTION MANUAL (S,A,CH)		M
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)		U
-			B58-0513-04	CAUTION CARD (PRESET220-240)		UE
218	1G		92176125	AC POWER CORD		MUUE
218	1G		92176574	AC POWER CORD		KP
218	1G		92176588	AC POWER CORD		X
219	1E	*	92197084	AUDIO CORD		
221	1E		92164990	SYSTEM CONTROL CORD		
225	1E	*	92766061	CUSHION(METALLIC CABINET)		
226	2E	*	90703914	SPRING (DOOR)		
		*	H01-8556-08	ITEM CARTON CASE		
		*	92938123	POLYSTYRENE FOAMED FIXTURE(F)		
		*	92938124	PORYSTYRENE FOAMED FIXTURE(R)		
			92941302	PROTECTION BAG (AC CORD)		
			92941312	PROTECTION BAG (INSTRUCTION)		
		*	92941378	PROTECTION BAG		
		*	92941505	PROTECTION BAG (MAGAZINE CASE)		
		*	92947082	PROTECTION SEET		
		*	92947136	PROTECTION SEET		
		*	92979128	PAD		
228	1F	*	92755971	POWER SWITCH LEVER		
229	2F, 2G		J02-1034-05	FOOT		
230	2E		J21-3326-05	JACK MOUNTING HARDWARE		
231	1F	*	92755922	BRACKET-AC		
232	1F	*	92882668	COVER-AC		
233	1F	*	12909001	CD MAGAZINE		
234	1F	*	92721645	MAGAZIN CASE		
235	1E	*	92882659	MOUNTING HARDWARE (DOOR)		
236	1G		95844322	POWER CORD BUSHING		
241	1F		K27-1965-04	KNOB (POWER)		
242	2F		K29-3588-04	KNOB (STOP,PLAY)		
243	1E		K29-3632-04	KNOB (HEADPHONE LEVEL)		
244	2E	*	90872779	KNOB (10KEY)		
245	1F	*	90872780	KNOB (DISK)		

E: Scandinavia & Europe K: USA P: Canada

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.


Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
246	2E	*	90872781	KNØB (SEARCH FØWARD)		
247	2F	*	90872782	KNØB (SEARCH REVERSE)		
248	2F	*	90872783	KNØB (SKIP FØWARD)		
249	2F	*	90872784	KNØB (SKIP REVERSE)		
250	2E	*	90872785	KNØB (ØPEN/CLØSE)		
251	2E	*	90872786	KNØB (EJECT)		
T901	1G	*	92225679	POWER TRANSFØMER	KP	
T901	1G	*	92225680	POWER TRANSFØMER	MUUE	
T901	1G	*	92225681	POWER TRANSFØMER	X	
A	1F, 1G		92707842	SCREW (3X8)		
B	1E, 2E		92707911	SCREW (3X8)		
C	1F, 2F		92707826	SCREW (3X10)		
D	1F	*	92708538	SCREW (3X5)		
E	1G		92707185	SCREW (4X8)		
F	1F, 1G	*	92703670	SCREW (3X16)		
G	2F, 2G		92707910	SCREW (3X6)		
H	2F, 2G		92708045	SCREW (3X8)		
S901			92196751	PUSH SWITCH (POWER)		
S902		*	92190288	SW-SLIDE-2C2P (POWER VØLT)	M	
RF-PC UNIT						
C101			CK45F1H103K	CERAMIC 0.010UF K		
C102			CE04KW1A101M	ELECTRØ 100UF 10WV		
C103			CC45SL1H221J	CERAMIC 220PF J		
C104			CC45SL1H271J	CERAMIC 270PF J		
C105			CK14B1H221K	CERAMIC 220PF K		
C106			CK45F1H473K	CERAMIC 0.047UF K		
C107			CE04KW1A101M	ELECTRØ 100UF 10WV		
C108		*	CC45CH1H2RØD	CERAMIC 2.0PF D		
C109			CE04KW1A101M	ELECTRØ 100UF 10WV		
C110		*	CK45F1H104K	CERAMIC 0.10UF K		
C111			CE04KW1A101M	ELECTRØ 100UF 10WV		
C112			CK14D1H102M	CERAMIC 1000PF M		
C114			CC45SL1H330J	CERAMIC 33PF J		
C115			CE04KW1A471M	ELECTRØ 470UF 10WV		
C116			CK14D1H102M	CERAMIC 1000PF M		
C117			CK45F1H473K	CERAMIC 0.047UF K		
J15		*	96721526	SØCKET ASSY(8P)		
J16		*	96721527	SØCKET ASSY(8P)		
L101			92211343	CHØCK CØIL 100UH		
R103		*	92658859	SEMI FIXED 200K		
D101			TLP907JA	ØPTØ ISØLATØR		
D102			TLP1006	ØPTØ ISØLATØR		
Q101		*	TA8137F	IC(RF AMP)		
Q102			2SA950Y	TRANSISTØR		
MAIN-PC UNIT						
C201, 202		*	CC45F1H223Z	CERAMIC 0.022UF J		
C203, 204			CK45FB1H223K	CERAMIC 0.022UF K		
C281			CE04CW1HR10M	ELECTRØ 0.10UF 50WV		
C282			CE04CW1A101M	ELECTRØ 100UF 10WV		
C301			CK45FB1H104K	CERAMIC 0.10UF K		

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C303			CK45FB1H104K	CERAMIC 0.10UF K		
C305		*	CE04CB1H3R3M	ELECTRO 3.3UF 50WV		
C306			CE04CW1E4R7M	ELECTRO 4.7UF 25WV		
C307			CK45F1H103Z	CERAMIC 0.010UF Z		
C308			CE04CW1E4R7M	ELECTRO 4.7UF 25WV		
C309			CK45F1H104Z	CERAMIC 0.10UF Z		
C310			CK45F1H103Z	CERAMIC 0.010UF Z		
C314			CK45F1H103Z	CERAMIC 0.010UF Z		
C315, 316			CK45F1H223Z	CERAMIC 0.022UF Z		
C318			CQ92M1H223J	MYLAR 0.022UF J		
C319			CK45F1H104Z	CERAMIC 0.10UF Z		
C322, 323			CK45F1H103Z	CERAMIC 0.010UF Z		
C324			CK45B1H221K	CERAMIC 220PF K		
C325			CQ92M1H473J	MYLAR 0.047UF J		
C326			CC45CH1H100J	CERAMIC 10PF J		
C327			CE04CW1A101M	ELECTRO 100UF 10WV		
C328			CK45F1H223Z	CERAMIC 0.022UF Z		
C329			CE04CW1A101M	ELECTRO 100UF 10WV		
C330-333			CK45F1H223Z	CERAMIC 0.022UF Z		
C334			CE04CW1A101M	ELECTRO 100UF 10WV		
C335			CK45F1H223Z	CERAMIC 0.022UF Z		
C336			CE04CW1H100M	ELECTRO 10UF 50WV		
C337			CK45F1H223Z	CERAMIC 0.022UF Z		
C338			CQ92M1H393J	MYLAR 0.039UF J		
C339			CK45F1H473Z	CERAMIC 0.047UF Z		
C341			CK45F1H473Z	CERAMIC 0.047UF Z		
C342-344			CK45F1H103Z	CERAMIC 0.010UF Z		
C345			CE04CW1A221M	ELECTRO 220UF 10WV		
C349			CC45SL1H220J	CERAMIC 22PF J		
C350			CE04CW1H338M	ELECTRO 0.33UF 50WV		
C351, 352			CK45F1H473Z	CERAMIC 0.047UF Z		
C371			CK45F1H104Z	CERAMIC 0.10UF Z		
C372			CE04CW1A101M	ELECTRO 100UF 10WV		
C404, 405			CC45CH1H150J	CERAMIC 15PF J		
C406, 407			CC45SL1H102J	CERAMIC 1000PF J		
C408, 409			CK45F1H103Z	CERAMIC 0.010UF Z		
C410, 411			CK45F1H223Z	CERAMIC 0.022UF Z		
C412			CK45F1H223Z	CERAMIC 0.022UF Z		
C413			CK45F1H103Z	CERAMIC 0.010UF Z		
C414			CK45F1H223Z	CERAMIC 0.022UF Z		
C415			CQ92M1H223J	MYLAR 0.022UF J		
C501			CE04CW1A471M	ELECTRO 470UF 10WV		
C502, 503			CE04CW1A221M	ELECTRO 220UF 10WV		
C504			CE04CW1A471M	ELECTRO 470UF 10WV		
C506, 507			CK45F1H223Z	CERAMIC 0.022UF Z		
C513, 514		*	CQ93M2A392J	MYLAR 3900PF J		
C515, 516		*	CQ93M2A471J	MYLAR 470PF J		
C517, 518		*	CQ93M2A152J	MYLAR 1500PF J		
C521, 522		*	CQ93M2A272J	MYLAR 2700PF J		
C523, 524			CE04CW1C100M	ELECTRO 10UF 16WV		
C525, 526			CQ92FM1H222J	MYLAR 2200PF J		
C529, 530			CE04CW1H109M	ELECTRO 1.0UF 50WV		
C901			CE04CW1H478M	ELECTRO 0.47UF 50WV		
C902			CE04KW1C221M	ELECTRO 220UF 16WV		
C903			CE04CW1A101M	ELECTRO 100UF 10WV		

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C904-907 C908,909 C910,911 C912,913 C914		*	CE04CW1H470M CE04KW1C472M CK45F1H223Z CE04KW1A102M CK45F1H223Z	ELECTR0 47UF 50WV ELECTR0 4700UF 16WV CERAMIC 0.022UF Z ELECTR0 1000UF 10WV CERAMIC 0.022UF Z		
C915 C916,917 C918 C919 C924			CE04CW1A471M CK45F1H223Z CE04KW1A102M CK45FB1H223K CK45FB1H223K	ELECTR0 470UF 10WV CERAMIC 0.022UF Z ELECTR0 1000UF 10WV CERAMIC 0.022UF K CERAMIC 0.022UF K		
C925 C925		*	CK45F2H103K CK45F2H472K	CERAMIC 0.010UF K CERAMIC 4700PF K	KP MXUUE	
J404 J501		*	92198236 92198295	SYSTEM CONTROL JACK OUT PUT JACK		
Z401		*	92153618	CRYSTAL RESONATOR (67.738MHZ)		
R201 R333 R334 R364 R380,381		*	92624231 RN14GB2C561F RN14GB2C562F RD14CB2H159J 92540776	POTENTIOMETER 50KB RN 560 F 1/6W RN 5.6K F 1/6W RD 1.5 J 1/2W MULTI-COMP 5.6KX4 K		
R382 R383 R384 R901 R902,903		*	92540818 92540779 92540776 90510058 90532109	MULTI-COMP 5.6KX3 K MULTI-COMP 56KX4 K MULTI-COMP 5.6KX4 K FUSE RESIST 0.33 J 1/2W FUSE RESIST 1.0 J 1/2W		
R912			92500271	FUSE RESIST 1 J 1/4W		
S201-233		*	92196961	TACT SW(10KEY,STOP,PLAY,ETC)		
D201-209 D250 D281-283 D301 D302			1SS133 TLS163 1SS133 1SS133 S5277B	DIODE LED DIODE DIODE DIODE		
D304,305 D401-406 D901 D902-905 D906		*	1SS133 1SS133 1B4B41 1SS133 05AZ24	DIODE DIODE DIODE DIODE ZENNER DIODE		
D907-909 N201 Q201 Q202 Q281		*	1SS133 FIP10BM19 GP1U501X UPC4570C TC4085BP	DIODE FLUORESCENT INDICATOR TUBE IC(REMOTE SENSOR) IC(OP AMP X2) IC(INVERT GAIT X2)		
Q282,283 Q301 Q302 Q303 Q304	≠270B	*	2SC2458(GR) TC9220F TC9221F TA8102P TA7354P	TRANSISTOR IC(SERVO SIGNAL PROCESSOR) IC(DIGITAL SIGNAL PROCESSOR) IC(POWER DRIVER) IC(MOTOR DRIVER)		
Q305 Q306 Q307 Q308 Q309		*	TA8212F NJM3404AD NJM2904D UPC4570C TA7354P	IC(TRANSISTOR IC) IC(OP AMPX2) IC(OP AMP) IC(OP AMP X2) IC(MOTOR DRIVER)		

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Q310		*	UPD75216ACW-239	IC(MICROPROCESSOR)		
Q311		*	LC3514	IC(LOGIC IC)		
Q311		*	UM6114	IC(LOGIC IC)		
Q312		*	TC74HC164AP	IC(8BIT SHIFT REGISTER)		
Q313		*	CXK5816M	IC(2KX8 RAM)		
Q314			2SC2878(B)	TRANSISTOR		
Q315			2SC2458(GR)	TRANSISTOR		
Q316			2SC2120(Y)	TRANSISTOR		
Q317-319			2SC2458(GR)	TRANSISTOR		
Q320-322			2SA1048(GR)	TRANSISTOR		
Q324			2SA473(Y)	TRANSISTOR		
Q325		*	M51943BSL-T	IC(SYSTEM RESET)		
Q401			TC74HC174AP	IC(HEX D-TYPE FLIP FLOP)		
Q402			2SC1923(O)	TRANSISTOR		
Q403			TC74HC74AP	IC(DUAL D-TYPE FLIP FLOP)		
Q404			TC74HCU04P	IC(HEX INVERTER)		
Q405			TC74HC74AP	IC(DUAL D-TYPE FLIP FLOP)		
Q406			2SC2458(GR)	TRANSISTOR		
Q501, 502			PCM56P	IC(DA CONVERTER)		
Q503		*	YM3414	IC(DIGITAL FILTER)		
Q504-506			UPC4570C	IC(OP AMP X2)		
Q507, 508			2SK365(BL)	FET		
Q509, 510			2SC2878(B)	TRANSISTOR		
Q901			MC7808CT	IC(VOLTAGE REGULATORS/ +8V)		
Q902, 903		*	MC7805CT	IC(VOLTAGE REGULATORS/ +5V)		
Q904			MC7905CT	IC(VOLTAGE REGULATORS/ +5V)		
Q905, 906			2SA1048(GR)	TRANSISTOR		
Q907			2SC2458(GR)	TRANSISTOR		
Q908			2SC2878(B)	TRANSISTOR		
MECHANISM ASS'Y						
10	1D	*	90743222	MAIN CHASSIS		
15	3C	*	92184254	WIRE CLMPER		
16	1D	*	92171460	WIRE HOLDER		
24	1C	*	90748584	CABINET MOUNT HARDWARE		
25	1D		92199251	FLEXIBLE PCB		
26	2C		90754364	TRAY GUIDE(R)		
27	2C		90754365	TRAY GUIDE(L)		
29	2D		90727246	GEAR(TRAY LOAD-B)		
30	2A	*	95759205	BELT(PICKUP DRIVE)		
31	2B		90723190	DISK TABLE		
32	3A		90727229	GEAR(CLUTCH)		
33	2A		90727230	GEAR(RELAY SEARCH)		
34	3A		90727231	GEAR(SEARCH TAC)		
35	3C		90727236	GEAR (MIDDLE)		
36	2D		90727238	GEAR (SLIDE)		
38	3B		95779797	SPRING(RACK-PICKUP)		
39	2D		90727245	GEAR(TRAY LOAD-A)		
40	1B		90741535	SLIDER-LOCK-ASS		
41	1D		90748398	ROLLER		
42	1D		90748409	BRACKET BEARING		
43	2B		90754339	TRAY SLIDER(A)		
44	1D		90754340	SLIDER(DRIVE)		
45	2B		90754341	TRAY SLIDER(B)		
46	1A		90754342	LEVER(CLAMPER)		
47	1D		90754344	SLIDER(A)		

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48	2B		90754347	LEVER(LOCK SEARCH)		
49	1C		90754348	LOCK LEVER		
50	1C		90754349	SLIDER(RETURN)		
51	1C		90754350	LEVER(TRAY-IN)		
52	2C		90754359	LEVER		
53	2C		90754366	TRAY SLIDER		
54	1A		90754377	LEVER(DISK STOP)		
55	1B		90754379	LEVER(HOLD)		
56	2C		90754388	SLIDE-W-LOCK		
57	3C		90757047	DRIVE CAM		
58	1D		90757050	CAM(CLAMPER)		
59	2C		90764381	SHAFT		
60	1B		90764382	PIN(SLIDER TRAY)		
61	1D		90764383	PIN (SLIDER GEAR)		
62	2A		90764403	CAM(ADJUST)		
63	1D		90764405	ROLLER SHAFT		
64	1C		90764435	LEVER PIN(DISK)		
65	2C		90764436	PIN(LOCK)		
66	2D		90764457	CAM-PC-ADJ		
67	1D	*	90776192	BRG-MOVE-ZN		
68	3B	*	92155247	PICUP ASSY		
69	3A		95709714	GEAR ASSY(SEARCH)		
70	3B	*	90764537	SHAFT(A)		
71	3C		95758300	PULLEY(RELAY)		
72	3C		95759147	BELT		
73	3D	*	90751371	CLAMP-LEV-ASSY		
74	2B	*	90764552	SCREW(DRIVE-PCUP ASSY)		
75	2B	*	95777864	SPRING(THRUST)		
76	1C	*	90776169	CHASSIS SHEET		
77	2C		90776183	MOTOR INSULATOR		
78	2D	*	95765211	SPACER-DOWN-LMT		
79	2A	*	90748577	PICKUP MOTOR HARDWARE		
80	2D	*	90776200	FELT(12X14X0.5)		
81	2C	*	90748466	TRAY ASSY		
82	2C		90776170	FELT(TRAY)		
83	2A	*	90776205	WASHER		
84	2B	*	90764538	SHAFT(B)		
85	3D		90776178	SWITCH SHEET		
86	2C	*	90776209	DISK PROTECT		
87	3C		90776181	FELT-P1		
88	1D		95761521	CUSHION(PU-STOP)		
89	1D		95761533	CUSHION(STOPPER)		
90	2B		95761576	CUSHION(PICKUP)		
91	2C		95761582	CUSHION(RUBBER)		
92	1A		95770079	SPRING(CLAMPER LEVER)		
93	3D		95770080	SPRING(LEVER)		
94	1C		95770081	SPRING(LOCK LEVER)		
95	1B, 2B		95770088	SPRING(SEARCH)		
97	2B		95770099	SPRING(D-H-LEVER)		
98	3B	*	90727300	PICKUP		
99	2B		95777708	SPRING(CENTER RING)		
100	3A		95777723	SPRING(CLUTCH)		
101	1B, 1D		95777748	SPRING(CLAMPER ADJ)		
102	3C		95778580	LOCK WASHER SPRING		
103	1C		95778617	SPRING(MAGAZINE)		

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104	3B	*	90754441	LEVER(PUSH-SLT)		
105	1A		95779700	SPRING(CLAMPER)		
106	1C	*	90776190	INSULATOR		
107	2A		90751370	LINK-SYNC-A-ASSY		
108	1C		90741496	MAGAZINE PLATE ASSY		
109	3A	*	90741594	MNT-M-UNIT-ASS		
110	3C		90741497	MOTOR MOUNT HARDWARE		
111	2D		90741498	MOUNT HARDWARE		
112	2A	*	90741522	PLT-HLD-T-ASSY		
113	1D		90743228	RF AMP		
114	1A		90747032	HOLDER(TRAY)		
115	3C		90748172	MOTOR SPACER		
116	1D	*	90748440	PLATE-CLAMP-SPT		
117	2B	*	90747038	HOLDER(SHAFT-A)		
118	2B	*	90747039	HOLDER(SHAFT-B)		
119	1D	*	90748495	MAIN CHASSIS PLATE		
120	2C	*	90749156	TRAY PLATE		
121	2A		90751366	LINK-SYNC-B-ASSY		
123	1A		90764380	PIN(LEVER CLAMPER)		
124	1B		90764442	BUSH(/1.5)		
125	1B		90764444	BUSH(LOCK SLIDER)		
126	2A		90773397	SLEEVE(A)		
127	2B		90773424	COLLAR(TRAY)		
128	2A		90776160	BEARING(SEARCH)		
129	2B	*	90747042	HOLDER(SHAFT-C)		
130	3B	*	90747043	HOLDER(SHAFT-D)		
131	1C		95783260	BUSH		
132	2B	*	90747044	HOLDER(WIRE)		
133	2B, 3B	*	95735303	WASHER(2X3X0.5)		
134	3B	*	92708419	SCREW		
135	2B	*	90748575	PICKUP CHASSIS		
136	2B		90776162	RING CENTER		
137	3B		92701285	SCREW(2.6X6)		
138	1B		92702216	NUT		
139	2A		92703470	U-E-WAHWER-2		
140	2C		92703472	U-E-WAHWER-1.5		
141	2A		92708523	SCREW(2X3)		
142	1C, 1D		92707366	SCREW(2.6X6)		
143	2A		92707429	SPECIAL SCREW(2.6X4.9)		
144	2D		92707617	SCREW(2.6X3)		
145	2B		92707680	SCREW(1.7X3)		
146	1A		92707825	SCREW(2.6X6)		
147	3D		92707894	SPECIAL SCREW(3X6)		
148	1A		92707913	SCREW(2.6X6)		
149	1A, 2A		92707979	SCREW(2.6X8)		
150	2B		92708271	SCREW(MECHANISM)		
151	3C, 3D		92708382	SCREW(2.6X3)		
152	1D		92708525	SCREW(2.0X5)		
153	1C, 3C		92708528	SCREW(2.6X3)		
154	1B		92708533	SCREW(2.6X8)		
155	3D		92708561	WASHER(2.6)		
156	1A, 1B		95735288	E WASHER(3)		
157	3D		92708570	E WASHER(4)		
158	1C		92708576	SCREW(2X10)		
159	2B		92708599	SCREW(2.6X5)		

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160	1D		92708716	SCREW(2.6X12)		
161	2B	*	92708150	SCREW(2.6X14)		
162	2B, 3B		92708405	SCREW(2.6X10)		
163	2A		92708820	SCREW(2.6X20)		
164	2D		92708827	SCREW(2.6X8)		
165	3C		92709084	SCREW(2X10)		
166	2C		92709085	SCREW(2X6)		
167	2D		92709086	SCREW(3X3)		
168	3C		92709093	SCREW(2.6X6)		
169	3A		95735281	E WASHER (2mm)		
170	2D		95766050	WASHER		
171	2A, 2D		95766150	WASHER(3.1X6X0.25)		
172	3D		95766189	WASHER(5.2X10X0.5)		
173	2A, 3A		95766199	WASHER(2.1X4.5X0.4)		
174	3C		95766229	WASHER(1.5X5X0.5)		
175	3C		95770089	SPRING		
176	3B		92708531	SCREW(2.6X5)		
177	3A		95766480	WASHER(3X4.35X0.13)		
178	2B, 3B		92707322	SCREW(2X10)		
179	2B		95766082	TØ 401 WASHER (2X3X0.25)		
180	3C	*	92125902	ASSIST MOTOR		
181	2B	*	92125945	PICUP MOTOR ASSY		
182	2C	*	92125903	LOADING MOTOR		
L102	1C		92147298	SOLENOID		
S101, 102	1D		92108046	SWITCH		
S103-109	1A, 1C		92108047	SWITCH		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

 indicates safety critical components.

SPECIFICATIONS

[Format]

Type: Compact disc player
Read system: Non-contact optical pickup
Rotational speed: About 200 to 500 rpm

[Audio]

Frequency response: 10 Hz ~ 20 kHz, ± 1.0 dB
Dynamic range: More than 95 dB at 1 kHz
Signal-to-noise ratio: More than 102 dB
Total harmonic distortion: Less than 0.006% at 1 kHz
Channel separation: More than 95 dB at 1 kHz
Wow & flutter: Unmeasurable Limit

Output

LINE (FIXED): 2.0 V/440 Ω
Headphone jack: 2 mW/100 Ω

[General]

Power consumption: 15 W
Maximum dimensions: W: 440 mm (17-5/16")
 H: 119 mm (4-11/16")
 D: 352 mm (13-7/8")
Weight: 6.8 kg (15 lb.)

Weight: 6.8 kg (15 lb.)

Note: _____
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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